HOT SPOT OIL NEWS SECTION

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# National Petroleum News

News from All Branches of Oil Industry Everywhere

VOLUME 29 WEDNESDAY, MARCH 24, 1937 NUMBER 12

## Wage Increases Are Granted In Mid-Cont. Fields

N. P. N. News Bureau

TULSA, March 23.—Some 30,000 or more workers in the Mid-Continent oil fields, particularly those in Texas and Louisiana districts, have already started to receive higher wages or will do so after April 1. The increase in some instances will be on a percentage basis, in others a flat sum per month.

These increases have been announced by a number of companies operating in the Mid-Continent, while other companies have announced they will meet the prevailing wages paid in the districts where they have workmen.

The Gulf Oil Corp., has announced a four to nine cents per hour wage increase for its field and pipeline departments, while the Gulf Refining Co., has announced a similar increase for refinery workmen at its Port Arthur, Texas, plant.

The Pure Oil Co. has boosted the pay of 600 employes at its Smith Bluff, Texas, refinery approximately six per cent, effective April 1, the second raise since Jan. 1. Its field employes in Texas and Louisiana are to get a similar increase effective the same date.

**More Pay to 11,000**

The Magnolia Petroleum Co. and the Magnolia Pipe Line Co., have announced that wage increases will be retroactive to March 15, and will affect some 11,000 employes whose income is less than $5000 annually. The increase will amount to about seven cents an hour for drillers, pipeline workers and others, it was said.

Humble Oil & Refining Co. has announced no definite scale as yet but has stated that it will "pay the prevailing wage scale or better".

While no increase in wages has been announced by some of the other large companies operating in this area it is generally believed they will meet the new wage scale in the near future. Some companies already have been paying higher wages for some time. Among them are Barnsdall Refining Co., Cushing Refining & Gasoline Co., Indian Territory Illuminating Oil Co., and Mid-Continent Petroleum Corp. In some instances the increases were put in early in the year.

The statement by D. A. Little, president of Magnolia, which accompanied the announcement of wage increases read in part:

**Conditions Improved**

"This upward adjustment for employes . . . . simply follows a practice our companies have observed for more than 25 years of adjusting wages and salaries as conditions would permit. The general outlook shows some improvement and this present adjustment made voluntarily is a recognition of the loyalty, the faithful work and co-operation

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## *Pipeline in Far North To Carry Fuel to Mine*

TORONTO, March 22.—A little over a hundred miles south of the Arctic circle in the district of Mackenzie, Can., there is under construction an oil pipeline which is the farthest north of any on the American continent.

During the open season fuel oil vital to the silver-radium properties of Eldorado Gold Mines Ltd., on Great Bear lake, is freighted 275 miles by water on Bear river and Great Bear lake from Port Norman, where Imperial Oil Ltd. has three wells. It has been necessary hitherto to portage past an 8½-mile stretch of rapids in the Bear river.

In the interest of economical distribution to the mining properties whose oil requirements take the bulk of the present demand and, it is understood, have been increasing rapidly in recent months, the major difficulty in transportation is to be overcome, President G. Harrison Smith of Imperial announced. It is anticipated the pipeline will be in service this summer.

In addition to the pipeline, storage tanks are to be built and new tanker barges placed in service at the same time. Gilbert LaBine, managing director for the mining company, states two barges of 9000 gallons capacity and one of 40,000 gallons capacity will also be built.

## Better Oil Finding Methods Needed to Sustain Reserves

N. P. N. News Bureau

**By JACK WESTSMITH**

LOS ANGELES, March 20.—Responsibility for maintaining adequate and necessary crude oil reserves in this country was laid directly in the lap of American Association of Petroleum Geologists, at its 22nd annual meeting in Los Angeles, March 17-19.

One outstanding feature of the meeting was the interest shown in geophysical exploration methods, use of this method to discover two new fields in the floor of the San Joaquin Valley during 1936 and its extensive application in searching for petroleum deposits in the Rocky Mountain areas, has strengthened the interest of California operators in this development.

Attendance at the meetings of the geophysicists and of the paleontology and mineralogy group was generally larger than at the purely geological sessions.

As a prelude to the bulk of technical discussions which were to occupy the attention of some 1000 registered delegates at the three-day sessions, two closely related papers were presented dealing with past performance in finding oil and with possibilities for future discoveries. These were delivered at the general association meeting on March 17.

This cocktail, which was served to whet the appetite for the courses to follow, consisted of a number of plain facts couched in terms understandable to everyone and scheduled to give the oil producer a bird's-eye view of what he is up against in maintaining crude oil reserves in the face of a rapidly increasing consumption demand.

The two papers continued a line of thought laid down by A. I. Leverson, retiring president, at Tulsa a year ago; namely that the oil finding fraternity must continue to assume a greater burden in locating new reserves by means not dependent upon surface observations and structural conditions alone.

**Pratt Leads Off**

Wallace E. Pratt, Humble Oil and Refining Co., Houston, who flew his own plane out to attend the convention, was lead-off man on the presentation, with a paper "Discovery Rates in Oil-Finding."

Past discoveries were studied by the author in the hope of uncovering some trend or characteristic which might be brought to bear directly on the problem of gauging future discoveries. Although a key to the solution of this problem was not indicated, the study did throw a revealing light on the character and accomplishment of discovery efforts to date, he brought out.

Of more than thirty billion barrels of oil discovered in the U. S. up to the end of 1935, which included that produced and that still held in proven un-

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**A Program for the Oil Industry**

The following outline for an economic program for the oil industry to follow to bring about the "wisest use of our petroleum resources" was suggested by Earl De Golyer, consulting geologist, New York, on an address at the convention of the American Association of Petroleum Geologists in Los Angeles, March 17-19:

1—Admit, and even welcome, foreign oil insofar as it can be done without too great dislocation of our own industry.
2—Encourage American companies to secure foreign reserves.
3—Advance the technique of prospecting for oil.
4—Advance the technique of producing oil.
5—Increase the efficiency of refining processes.
6—Increase the efficiency of our use of motor fuel.
7—Refrain from the less desirable uses of oil, such as burning it for fuel.

# *Indiana and Jersey Standards Charged With Trade Restraint*

N. P. N. News Bureau

NEW YORK, March 22.—A general denial to charges of restraint of trade and violations of company agreements has been made here by the Standard Oil Companies of Indiana and New Jersey and other defendants in answering a suit brought by Louis and Jacob Blaustein, of Baltimore, officers and directors of the Pan American Petroleum & Transport Co. Supreme Justice Charles McLaughlin took under advisement a request from the Standard of Indiana that it be excluded from the suit as it was not doing business in New York state.

Others named as defendants are Walter C. Teagle, president of Standard of New Jersey; Edward G. Seubert, president of Standard of Indiana and chairman of the board of Pan American Petroleum & Transport Co., and the following directors of the Pan American company, Charles J. Barkdull, Louis L. Stephens, Edward G. McKeever, James A. Carroll, Jr., Robert E. Wilson, Allan Jackson, and Edward J. Bullock.

The Blausteins, through their personal holding corporation, American Trading and Production Corp., now own approximately 20 per cent of the stock of the Pan American company and the Standard of Indiana owns about 70 per cent.

The purpose of the suit, as stated in the bill of complaint, is "to require restitution to Pan American Petroleum & Transport Co. of large sums of money and valuable properties, of which it is charged the defendants deprived the company, and also to establish the right of the Pan American Petroleum & Transport Co. to conduct and operate itself as an independent, integrated oil company, free of Standard Oil domination and free to compete with them."

**Ten-Year Deal**

The plaintiff states that, in 1923, the American Oil Co. (founded by the Blausteins) after building up a substantial marketing business, mostly along the eastern seaboard, made a deal with Pan American Petroleum & Transport Co. to furnish American Oil with all its gasoline requirements for a ten-year period. Half of the stock of American Oil was sold to Pan American, which had among its chief competitors the Standards of Indiana and New Jersey, the bill of complaint sets forth.

It also states that, after the Standard of Indiana had acquired a controlling interest in Pan American by 1932, it sold the chief part of Pan American's crude oil reserves and refining facilities to the Standard of New Jersey and its subsidiaries. In 1933 the Pan American and American Oil companies were merged, with the Blausteins taking a 27 per cent interest in Pan American, which left Standard of Indiana the majority stockholder with about 70 per cent.

The complaint alleges that, immediately following the Pan American-American Oil merger, the Pan American directors who represented Standard of Indiana, in co-operation with the Standard of New Jersey, began a series of acts to weaken the position of Pan American as a competitor of Standard Oil companies. Some of the methods used, the complaint states, were: a four-years delay in completion of a promised refinery; delay in purchase of oil lands in Texas until prices were high or until they had been already bought by Standard of Indiana or other competitors of Pan American; forcing Pan American to make contracts with subsidiaries of Standard Oil companies for crude oil and refined products as well as transportation of its products, until the company was reduced to a subordinate position.

The Blausteins charge that valuable assets of Pan American were wasted and they ask for an accounting from the defendant corporations and individuals. They also ask that the Pan American assets be restored to it so it can carry out the "program of the original agreement" and be able to compete freely.

## *Teletype Wire Serves In School Disaster*

TULSA, March 22.—How an oil company's teletype wire was used to notify Louisiana and surrounding points of medical supplies needed at the New London (Tex.) school disaster scene was related yesterday by W. F. Kostelka, vice president of the Grogan Oil Co. of Shreveport, La.

"The Grogan Oil Co. has a teletype wire from Shreveport to our plant at Overton, Tex., only a couple of miles from the London school," Kostelka said, and we were in immediate communication with the plant as it was the only wire open an hour after the disaster.

"I was so horrified at first that I could not do a thing. It took me several minutes to gather my wits together. Remembering the value of the radio in the Ohio flood, I called KWKH and told them of the news." He said the broadcasting station used the teletype wire as an information source in keeping the Arkansas-Louisiana-Texas area notified of supplies needed at the scene.

**Oil Men First on Scene**

Oil company employes first reached the scene of the catastrophe that snuffed out the lives of 450 youngsters. It was these same men — refinery and oil field workers — who conducted the rescue work.

Refinery and oil field operations nearby were at an almost complete standstill after word of the explosion as all available help rushed to the scene.

Shortly after the explosion, oil companies mobilized their motor transports and soon traveling cranes and other motorized equipment were on the scene.

## *Liquefied Gas Sold Through Meters*

NEW YORK, March 22.—Liquefied gas for use in private homes is now being sold through a meter system, and paid for just as is ordinary city gas, in a new type gas distribution system recently installed by the Atlantic States Gas Co.

Three distributing centers have already been established by the company at Cortlandt, N. Y., and at Lewistown and Lancaster, Pa. An area around each center of 60 miles radius is served by the system.

An installation includes a 125-gallon tank buried underground on the premises of the user and connected with the house supply system. The gas passes through a high pressure reduction valve mounted on the tank and, inside the building, through a low pressure reduction valve. It is metered by a standard gas meter.

The customer pays each month for the gas used, the meter being read by a company reader in the customary manner. The gas in the supply tank belongs to the company, and a meter reader keeps check on the tank's contents, and notifies the company when the supply should be replenished. One filling of the tank equal to about 20,000 cu. ft., each four or five months suffices to supply the average installation.

# Wage Increases Are Granted

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of our more than 11,000 employes.

"A conference was held in Dallas between executives and advisory committees elected by and representing the employes of the production, machine shops, natural gas and gasoline, marketing and pipeline divisions, and with a similar committee representing the refinery division meeting in Beaumont. At these conferences the proposed changes were submitted in detail to the several advisory committees and were approved and accepted by each for themselves and for those employes in the respective divisions whom they were authorized to represent."

Reports from the Baytown, Texas, refinery of the Humble company, meanwhile indicated that the Employes' Security League is "standing by" pending the start of the announced membership campaign by the C.I.O. April 5.

Employes of The Texas Co., who are members of the oil field and refinery workers union were to begin a conference in Tulsa, March 23, to discuss renewal of the memorandum of terms which has been in effect in the company's plants the past year. Delegates were reported to be here from plants at Lockport, Ill., Pryse, Ky., Casper, Wyo., Lawrenceville, Ind., Houston, Port Arthur, and Port Neches, Texas.

The agreement reached recently between Mid-Continent Petroleum Corp.'s officials and representatives of the oil workers' union after several weeks of negotiations was signed officially March 19.

Many of the terms of the agreement are a reiteration of the company's policy with reference to all its employes, irrespective of any labor organization affiliation. The "check-off" system, which had been one of the union's issues, was not included, and the door was left open for employes to discuss, collectively or singly, any wage or other working conditions with the management.

The agreement, however, does provide that the hours of work shall not exceed 40 in any one week, or 72 in any two weeks, or 20 hours in any two successive days, with time and one-half pay for all overtime work and extra pay for any emergency work. Payment of time and one-half for overtime is one of the requirements bidders must meet to secure government contracts. The vacation with pay policy is continued.

# *Majors' Marketing Can Yield Profit, Sohio Demonstrates*

N. P. N. News Bureau

CLEVELAND, March 22. — That marketing operations alone for a large company can yield a profit without passing any cost back to the refining department, was set forth by W. T. Holliday, president of the Standard Oil Co. of Ohio, in the annual report to stockholders.

"Consideration should be given to statements that the marketing branch of the oil industry is unprofitable," Holliday said in comment, "and that the large integrated companies cannot market within the margin between the wholesale tank car price of gasoline and the tank wagon and service station prices. We wish to emphasize that your company's experience demonstrates that it can and does operate its marketing department at a profit on the basis of prevailing wholesale tank car prices.

"The losses which your company suffered during the depression years were suffered in the refining department in periods when the entire refining branch of the industry was operating at a great loss because of the low margin between crude oil prices and the wholesale tank car prices of refined products."

The Standard Oil Co. of Ohio reported a net profit for 1936 of $4,194,314 after all deductions including depreciation and taxes, as compared to a net profit of $2,690,647 in 1935, in the company's annual report to stockholders. Profits were approximately $4.75 per share on the common shares of the company, after all taxes and after deduction of preferred stock dividends, as compared to $2.76 in 1935. These two years are the first profit years since 1931.

The profit includes a dividend of $657,900 on the company's holdings of Ajax Pipe Line Corp. common stock.

**More Ethyl Sold**

For the first time in many years the percentage of premium grade ethyl gasoline sold by the company showed an increase, the service station and tank truck sales rising from 7.3 per cent of total gasoline in 1935 to 7.8 per cent in 1936.

The number of tires, batteries and other accessories sold showed increases over 1935 ranging from 23 per cent to 75 per cent. Gallonage of industrial oil sales increased 14.5 per cent, and that of furnace oil sales, 30 per cent.

Pointing to a 50 per cent reduction since 1920 in the margin between delivered crude and the average retail gasoline price, the report stated that the average retail price of gasoline is now less than half the average price for the 1918-22 period—exclusive of taxes.

"The narrowing of the spread between crude oil and gasoline prices is, of course, partly accounted for by the higher yield of gasoline from crude, which tends to reduce the effective cost of gasoline relative to other refined products and to crude oil," the report said. "On the other hand, the extra yield of gasoline obtained today requires additional processing and the cracking of various stocks.

**Station Race Continues**

Standard of Ohio reported construction of several new stations and remodeling of old stations in 1936. Commenting on the building of gasoline stations today, the report stated:

"The factor of rapid obsolescence also exists in the marketing division, not because of technological changes, as in refining, but through the increasing tendency of your company's competitors to build new stations on new sites and to replace old stations with modern structures.

"To keep itself in a sound competitive condition your company must continue to modernize and replace numerous of its stations and it must, from time to time, acquire new locations to meet changing conditions and take advantage of new opportunities.

Standard Oil Co. of Ohio has not adopted the so-called "Iowa Plan", said President Holliday defining this as the practice under which major companies lease out all their service stations to independent dealers and retire from retailing and the posting of retail prices. Describing the Ohio company's policy in this regard, he said:

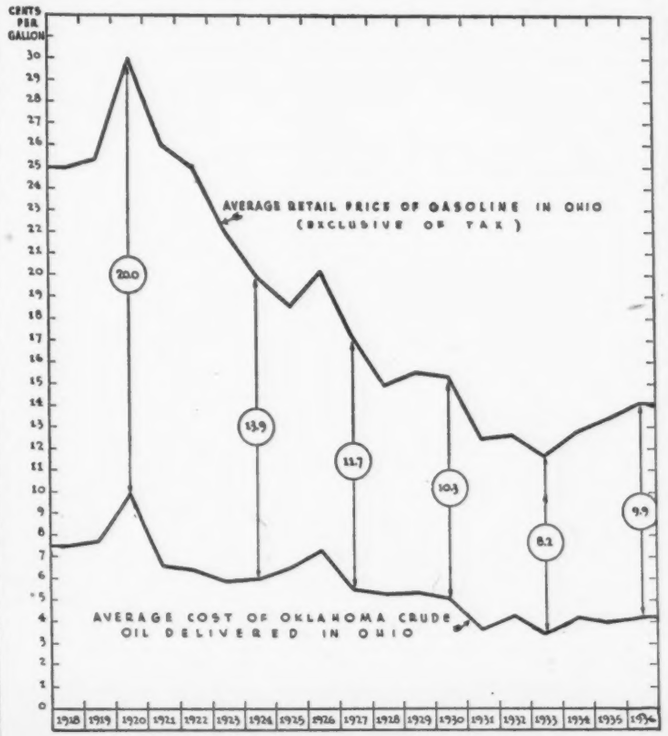
"As a matter of operating economy and in special instances to obtain the services of enterprising individuals, your company has leased a great many of its stations, especially the smaller ones and those in smaller cities but it still operates directly practically all of the larger stations where, on account of the large volume of sales, the costs under direct operation are lower than under any other form, and where uniform and closely supervised service is especially important. The company's service stations as a whole constitute one of the most profitable parts of the company's business, affording lower net marketing costs per gallon of gasoline sold than any other channel of its distribution.

**Use of 'Gas' at Peak**

In commenting on general conditions, Holliday said that the consumption of gasoline in the U. S. in 1936 was 26.5 per cent above 1929, to reach a new peak. As compared with 1935, gasoline consumption was up about 10.5 per cent in the United States; the rate of increase in Ohio was about the same.

Construction of a modern combination crude distilling and cracking unit at the Toledo plant, for which the contract was let several months ago, will cost about $2,000,000, the report said. The new unit is expected to reduce the cost of manufacture, especially the cost of fuel; will produce gasoline of higher anti-knock quality and increase the plant's capacity.

The company also is planning certain gasoline pipeline projects.


CENTS PER GALLON
AVERAGE RETAIL PRICE OF GASOLINE IN OHIO (EXCLUSIVE OF TAX)
AVERAGE COST OF OKLAHOMA CRUDE OIL DELIVERED IN OHIO
20.0
13.9
11.7
10.3
8.1
9.9
1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936

*Ohio Margin Trend,* 1918-1936

# Tentative Value For Gulf's Lines Is $33,750,000

N. P. N. News Bureau

WASHINGTON, March 22.— Tentative valuation of Gulf Pipe Line Co. properties owned and used for common carrier purposes was fixed by the Interstate Commerce Commission's Bureau of Valuation at $33,750,000 in a report issued today.

It is the second tentative valuation report for rate basing purposes issued by the ICC since Valuation Order No. 27, issued late in 1934, which ordered that all oil pipelines be inventoried and valuated. The first report was on Atlantic Pipeline Co.'s properties, issued Nov. 30 and protested by the Atlantic at hearings before an ICC examiner here earlier this month.

More than 50 other companies classified as interstate common carriers of oil and petroleum products by pipeline have been inventoried and audited and are in process of valuation. Reports on some of these are expected within the next few weeks.

In the Gulf report, the ICC has excluded $250,000 worth of property owned by the company but used for purposes other than those of a common carrier, as well as $380,556 worth of property owned but not used by the company. The properties used but not owned (leased from other companies) are valued at $254,954.

In the final valuation figures, Gulf Pipeline Co. was found to own $34,380,556 worth of property, and to use $33,995,954 worth—including both that owned and leased.

The basis of Atlantic's protest against the proposed valuation placed on its properties was that those properties excluded as "owned but not used for carrier purposes" were essential to its operation as a common carrier.

The report goes into detail on the cost of reproducing the pipeline company's system, the financing and corporate history of the company, its investment in property and virtually all phases of its business.

# *Spring Comes to Oil Industry As Legislative Storm Abates*

N. P. N. News Bureau

NEW YORK, March 22.—First signs of a let-up in the legislative blizzard which has raged 'round the petroleum and allied industries since the convening of twoscore legislatures almost three months ago were detected this week in reports reaching here from the twenty-odd state capitals where legislatures still are in session.

But, while new proposals seem to be dropping with less regularity, action on bills introduced during the height of the storm now is being speeded up as many of the legislatures move toward adjournment, and the general outlok appears to be brighter than when each new day brought at least a dozen proposals ranging from government competition to virtually confiscatory taxation.

Among the favorable actions reported from the state capitals are those of Gov. Clarence D. Martin of Washington, who vetoed a proposed boost in the gasoline tax and at the same time approved a bill cancelling diversions being made from the highway fund for various purposes.

**Amendment Proposal Approved**

Indiana's governor, likewise, has approved a bill proposing a constitutional amendment for prevention of diversion, and Montana's governor has approved a bill reducing the tax on crude petroleum to a fourth of a cent a barrel.

New bills along this same route include that introduced in Nevada's legislature to prevent diversion by constitutional amendment, and the one before Connecticut's lawmakers to petition Congress to drop the federal gasoline tax.

**State-Owned Terminal**

All is not beer and skittles, however, for North Carolina's legislature has passed a law authorizing establishment of a state-owned gasoline terminal; Utah's legislature has before it a bill authorizing municipalities to enter the gasoline business; Georgia's house has passed a bill diverting part of the gasoline tax money to schools; West Virginia's senate has passed a bill to increase that state's gasoline tax to 5 cents; a group of bills introduced in Illinois would permit any and all cities to levy their own motor vehicle taxes of various kinds, and both houses of the New Jersey legislature have passed a bill diverting almost $8,000,000 from the highway fund to the financial assistance commission.

In Texas, the House has passed the bill providing for extension of the interstate compact for oil and gas conservation. It is now considering a bill to ask Congress to pass laws permitting it to levy taxes on oil storage.

**Fair Trade Laws**

More than two dozen state legislatures have enacted so-called "fair trade acts" during the current session, according to word received here, and several others have them under consideration. Among the most recently introduced is the one in South Carolina.

Oregon's governor has approved a law fixing gasoline standards and specifications.

Truck weight and dimension regulations of widely varying hues continue to make their appearance, along with port of entry legislation.

A House committee in Texas has reported out a port of entry measure, and one has been introduced in the past week in Pennsylvania.

The trend in weight and dimension legislation for trucks, however, appears to be toward the liberal side, with bills introduced in Idaho and Ohio limiting vehicles to 68,000 and 65,000 pounds, respectively.

Several more states have bills to rule heavier trucks off certain highways during various hours of Saturday and Sunday during the summer, presumably to allow more highway room for week-end pleasure driving.

Minnesota again has sprung to the fore with unusual (to say the least) legislation. One of her lawmakers proposes to pave state highways with iron—Minnesota iron, of course.

The New Jersey Senate has approved Senate Bill 114, providing for regulation of the sale of liquid fuels within the state. The bill is said to have the approval of the New Jersey Fuel Oil Jobbers Association and the state bureau of weights and measures.

A bill providing for a two per cent retail sales tax in Massachusetts, which apparently would have included the oil industry, was killed in the state senate, it was reported here.

# *Oil Company Will Pack Up Its Files And Move to Colorado for Summer*

LINCOLN, Nebr., March 22.—L. L. Coryell & Son, an oil marketing concern having 500 outlets in 14 midwestern states, will literally pack its general office and move to the Colorado Mountains to escape the Nebraska heat and dust during July and August. The move involves 50 employes and their families.

This working vacation plan is without precedent in the business world, L. L. Coryell, Sr., president, believes. He expects it to become a permanent yearly feature of the organization.

At the close of business June 12, the files and records of the company will be packed and loaded in trucks for the 500-mile jaunt to the west. Employes and their families will travel in their own cars or those furnished by the company. Bulky equipment, such as desks and typewriters, will be left behind.

The company has leased the gymnasium of the Colorado Springs high school. When the Coryell caravan arrives rented desks and typewriters will already be in place and telephone and telegraph lines in operation. The officers of the company expect to have the office ready for business in its new location the morning of June 14.

The employes, upon arrival, will go to houses and apartments already under lease. The company is granting a pay differential deemed sufficient to care for any increase in living costs. Traveling expenses will be borne by the company. Part of the cost of moving its offices will be recovered thru increased efficiency of the staff, it is believed. Also, the annual staff interruptions caused by the ordinary vacations will be avoided. The company vacation is designed to take the place of the ordinary two-weeks vacation with pay.

The vacation plan was decided upon as preferable to office air conditioning, since the latter does not provide for cool sleepful nights in the homes and apartments of employes, as does the Colorado trip. Field representatives of the company and representatives of refineries and equipment houses doing business with Coryell's will share in the benefits of the Colorado trip to a certain extent when they call at the temporary general office.

# *Well Spacing Rules Before High Court*

N. P. N. News Bureau

WASHINGTON, March 22.—Texas' well-spacing rule is again knocking at the marble portals of the U. S. Supreme Court.

This time it is brought up by C. H. Murphy and the J. I. Roberts Production Co., who have petitioned the high court for a writ of certiorari to the Court of Civil Appeals for the Third Supreme Judicial District of Texas.

The Texas court, in a case brought by the Turman Oil Co. and others, held that a drilling permit granted by the Texas Railroad Commission to Murphy and Roberts was illegal and void because the East Texas tract, out of which the Murphy tract on which it was sought to drill was carved, was voluntarily subdivided after the field was developed, according to the petition.

The decision of the Texas court, which the petitioners want to have the Supreme Court review, was based on a Texas Railroad Commission rule that no subdivision of land made subsequent to adoption of the original well spacing rules (in 1919) would be considered in determining whether or not property is being confiscated.

Murphy and the Roberts company contend that the court's invalidation of the permit granted them to drill on the allegedly subdivided tract (which placed their well closer than the well-spacing rule permits to the boundaries of the tract) "amounts to an arbitrary interference with private business and imposes unreasonable and unnecessary restrictions upon it."

The well was drilled, under the "invalidated" permit, but has been capped.

**5-Cent Tax In Nebraska**

LINCOLN, Nebr., March 23.—Governor Cochran's five-cent gasoline tax measure passed the legislature today. When signed it will be operative until June 30, 1939. A half cent of extra cent over the old four-cent tax is diverted from roads, going to social welfare.

*By Teletype*

WASHINGTON, March 23.—Secretary of the Interior Ickes today authorized the sale of oil and gas leases on public lands located in the Rodessa field, Louisiana, comprising Unit No. 1, 40 acres, and Unit No. 2, 113.38 acres. The sale will be held at noon, April 23, in the Federal court room at Shreveport, La.

# Bills to Govern Natural Gas Industry in Congress

*By Teletype*
N. P. N. News Bureau

WASHINGTON, March 23.—Views on a bill providing for a "Connally law" for natural gas and "equitable buying" of production in a gas field, as well as regulation of the natural gas industry as a public utility by the Federal Power Commission are expected to be aired this week before the House Interstate Commerce Committee.

At the time Chairman Clarence F. Lea of California scheduled hearings a few days ago on his bill providing for relatively mild regulation of interstate transportation and sale of natural gas, Congressman Robert Crosser of Ohio, introduced his more drastic measure, which is likely to be taken up at the Lea bill hearing.

On the Senate side, a companion measure to the Crosser bill has been introduced by Senator Brown of Michigan.

### Gas Business

Hearings have been concluded by the House committee on anti-pollution bills and it is unlikely that Senate hearings will be held. Hearings on bills to regulate water carriers, including tankers and oil barges, have been recessed indefinitely.

The Crosser bill, purporting to aid the states in conserving natural gas, provides that "every person engaged in the business of producing, transmitting, distributing, selling, or exchanging natural gas, in whole or in part, for public use is declared to be engaged in the business of conducting a public utility."

### Encourage Compacts

Interstate compacts for gas conservation would be encouraged, if the Crosser bill becomes law, with the Federal Power Commission recommending to the producing states quotas, rates and other data.

Gas produced in violation of the state law would be prohibited from shipment in Interstate Commerce—just as the Connally law prohibits shipment of "hot" oil.

Interstate pipelines would be given the choice of acting as common carriers, transporting at "fair" rates the gas tendered by any shipper, or acting as gas purchasers.

If the pipelines chose to continue as private carriers, as most are now, they would be required to buy tenders of gas equitably.

Pipelines would be required to supply any city along their lines and the power commission could order any "reasonable" extension of facilities. Rates and charges could also be fixed by the commission.

Senator Brown said he introduced his gas bill after conferring with officials from Detroit and other cities.

### Pollution Hearings

During hearings before the House Rivers and Harbors Committee a majority of the committee members indicated they favored the Vinson bill in preference to other anti-pollution measures.

The Vinson bill would require a study of stream pollution by the U. S. Public Health Service in co-operation with the states. It also provides for loans and grants to states, cities and private industries for water purification plants, and for encouragement of interstate compacts for control of pollution.

This measure, which passed the House last year, was endorsed by a number of state and city health officials. Many declared that mandatory legislation was the wrong approach and that they had found industries willing to co-operate in any reasonable solution of the problem.

Favoring mandatory legislation were Congressman Joseph L. Pfeifer of New York, author of a bill outlawing stream pollution, and Senator Augustine Lonergan of Connecticut, sponsor of a similar bill in the Senate.

### Brown Testifies

No witness representing an industry appeared against the Vinson bill. On the contrary, several trade association representatives strongly urged its passage, in preference to the Pfeifer-Lonergan bill.

Russell B. Brown, general counsel of the Independent Petroleum Association of America, endorsed the Vinson type of legislation. He said the Pfeifer bill would "overnight make a large portion of our industries, municipalities and citizens guilty of violation of a solemn law of United States."

The Pfeifer bill, Brown added, demands an instant and complete answer to a most complex and difficult problem "with which science has been constantly occupied for many years, and which still perplexes the industries of the world." In effect, it orders everybody to put into effect immediately plans and programs which have not yet been devised, he declared.

### Compact Feature Praised

On the other hand, the Interstate Compact Policy, one feature of the Vinson bill, as applied to the petroleum industry has "been helpful to the oil producing states without trespassing on the sovereign rights of any of the participants of that compact," he said.

A subcommittee of Lea's Interstate Commerce Committee has completed consideration of the Californian's bill to broaden the powers of the Federal Trade Commission, and filed its report with the full committee, which is expected to report the measure to the House soon.

### Wheeler Bill Reported

At the same time, Senator Burton K. Wheeler of Montana, chairman of the Senate Interstate Commerce Commitee, has reported his bill to broaden the FTC's powers. Like the Lea bill, it would give the Commission authority to issue cease and desist orders against "unfair and deceptive acts in commerce," but, unlike the Lea bill, it would broaden the FTC's investigative powers also. Hearings were held on the Wheeler measure at the last session.

After holding hearings for two days, the House Merchant Marine Committee has "indefinitely postponed" action on the bill of Congressman Robert Ramspeck of Georgia, to place all interstate water carriers under Interstate Commerce Commission regulation. In postponing action, committee members said the committee needed an opportunity to study Senator Wheeler's water carrier bill, known as S 1400.

Wheeler's bill is similar to the Ramspeck bill on which hearings were held, with the exception that Wheeler's bill would give the ICC authority to exclude from regulatory provisions of the act water carriers whose special equipment or other features tends to make them non-competitive. This would probably be construed to exempt tankers and tank barges from ICC regulation.

### New Ramspeck Bill

The day after the committee postponed action on his original bill, Ramspeck dropped into the House hopper a bill based on the Wheeler proposal which action on his earlier measure had been postponed to consider. Thus, whichever bill is reported out of the House committee—if any—it probably will be a "Ramspeck" bill.

During hearings on the measure, D. V. Stroop of the American Petroleum Institute testified that even the Wheeler proposal gave too much discretion to the ICC with respect to exemption of "special equipment" vessels. He said that the committee, with all the facts before it, should make the exemption of tankships a part of the law, rather than leaving it up to the ICC.

### Few New Bills

Besides Ramspeck's substitute bill, about the only other new legislative proposal given Congress during the week of even passing interest to the oil industry was that of Senator M. M. Neely of West Virginia to create a transcontinental superhighways commission of five members to study a proposal to construct coast-to-coast and lakes-to-gulf superhighways.

# Penalize State For Diverting 'Gas' Tax Funds

N. P. N. News Bureau

NEW YORK, March 22.—The first penalties for diversion of state gasoline sales taxes and motor vehicle registration fees have been imposed on Maryland by the federal government.

Cancellation of all diversions was advocated immediately by Governor Harry W. Nice when informed of the state's loss of federal aid.

The Maryland precedent indicated that the Hayden-Cartwright Act has teeth and that the high cost of diversion will be found costly by other states which have diverted highway funds, in the opinion of T. J. Keefe, general manager of the American Motorists Association.

T. H. McDonald, head of the U. S. Bureau of Public Roads, has informed the Maryland State Road Commission that Maryland's share of federal road aid funds for 1937 has been reduced a third, or over $340,000 because $4,000,000 of highway funds were spent for general purposes.

The bureau is investigating expenditures of these taxes in other states. Since a number of states have diverted funds, it is believed penalties will run into millions of dollars.

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American mass production has placed 22,000,000 passenger cars on the roads, three cars for every four families in the country. France has one automobile for each 20 persons, the United Kingdom, one to 23; Italy one to 108; Poland one to 1283.

# National Petroleum News

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Published every Wednesday by The National Petroleum Publishing Company

FOUNDED 1909

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*Member of Audit Bureau of Circulation and Associated Business Papers, Inc.*

Publication office: 1213 W. Third Street, Cleveland, O.
Telephone, CHerry 7672—Cable Address, Plattoil, Cleveland

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Subscription rate $2 per year in United States and Mexico; $3 in Canada; $3.50 Foreign Countries. Current copies 10 cents; back copies more than two months old 20 cents per copy.


## *Destructive of Competition*

The beginning of the end of competition in the marketing of gasoline is in sight the minute the legislature of New York state carries out the recommendation being considered by its special committee investigating oil, to have gasoline service stations licensed.

For the past year a special committee of the New York state legislature, headed by Senator Ehrlich, of Buffalo, has been investigating the industry's marketing methods. Now, according to Chairman Ehrlich, the committee is about of the opinion that the oil companies, particularly the larger ones, by increasing the number of filling stations, are running up the price of gasoline to the ultimate consumer. The senator is quoted as saying, therefore, there should be state licensing and control. Presumably one would have to get a dispensation from a licensing commission by showing "public necessity" before a station could be built and then probably prices would be controlled.

The committee seems to be about to fall into what is a politically popular but a terribly unsound economic conclusion that the greater the competition the higher the price set by the competitors. What political officeholders purport to believe, in their public statements, and what they actually do believe, one must admit may be two entirely different things. Some weird alleged economic ideas—they cannot be called principles—are sprung by officeholders under what seems to them to be the pressure of political expediency.

But, however sensible Chairman Ehrlich may be in his private opinions, the oil industry must now judge him on his public statements which, as they were printed in NATIONAL PETROLEUM NEWS, we, for our own self respect, must assume are correctly quoted.

The New York committee probably has become confused over the cries of the dealers for more margin and the high costs per gallon of operating most service stations. But these two unfortunate facts do not mean for a minute that the prices which the public is paying are any higher over any period of time than they would be with fewer stations.

The committee should not gaze very long at the prices posted at service stations. So frequently they are just the place to start dickering from, and it generally does not take much dickering either, according to all reports, to secure a concession of some kind.

Service stations for years now have been in what is probably largely a losing fight to hold the business of the truck owner—the large consumer. The more the stations fight to hold this business the more they are going to weaken and slip in their prices to the individual passenger car owner, because it is rather beyond the strength of human nature to maintain two prices at the same source for about the same size and type of unit of sale. Oil companies with chains of stations have always found it necessary to have the truck business charged to the home office in order to maintain a different price to the individual passenger car owner.

What would do the oil business good right now would be accurate surveys as to the costs of handling different classes of business both at service stations and from tank trucks. Such surveys would tend to show to the industry the new and low cost methods of distribution, particularly to certain classes of customers, as against just plain foolish price cutting to try and accomplish the impossible, that is, hold business that necessarily is going to be handled on a cheaper basis.

When one gets into all these special prices that obtain over the country on gasoline, then one finds evidence of competition of new methods, a new conception of classes of customers and the ruthless competition of plain, ignorant and hopeless price cutting.

While we appreciate how easy it is for outsiders to the industry to come to the same conclusion as this New York State legislative committee appears to have come, we do not believe that they could come to a more erroneous and ill-founded one. Certainly, after a year of investigating, one can hardly excuse this particular committee in reaching this totally wrong thought.

There are too many filling stations for the gallonage but the reasons for the large number are many and not all of them lie with any avariciousness of the larger companies, as faulty as their policy frequently has been.

One should not generalize on filling stations. They come into existence for reasons sufficient to the property holder, to the building contractor, to the man who is about to own or operate them. And these may be prompted by other reasons, such as the need for getting income off the property, no matter how meager; the need for construction business, and, in the case of the man who operates it, the need for a job of some kind. Many a station has been kept running these last few years because, small as its net income may be, it is a whole lot better than no income at all or going on relief.

These are no times for putting a cold, steel rule against our service stations and their operators. For the good of the country and for mankind the rule should be a generous, warm hearted one, and that is the kind the oil industry has been using. It may not be sound from the standpoint of hard boiled economics but neither is it entirely sound, from such a standpoint, to pay out billions of dollars in what we are pleased to call "public works" programs and other government enterprises that, from the standpoint of sound business, are the height of folly. Certainly the oil industry, in these times, should be given credit for not "cracking down" on dealer's margins and cleaning

up the filling station situation which it was in a fair way to do when the evils of the late code came upon us.

Any fair sized major company could take back its stations, close some of them, cut its margins to a "trackside" station basis, close more of its stations as they showed losses and clean up the filling station business in short order if the politicians would let it and it wanted to. But these same politicians that now talk of licensing stations would be the first to listen to the cries of the filling station operators and the smaller oil companies and "proceed to take steps" about it, the while adopting condemnatory resolutions against the "cruel oil monopoly."

And, for the information of these politicians, many a big company marketing executive has time and again carefully considered just this remedy for the filling station situation but has desisted because it would be too drastic and unfair to the tens of thousands of people who have small and unneeded stations, and it would have too adverse an influence on our present recovery.

What will happen if a state undertakes to organize a monopoly—for that is what it would be—in filling stations and license only those it sees fit, one can leave to the imagination of any business man who has the faintest idea of government operation of business. There undoubtedly would soon be the greatest amount of corruption in that state's history, corruption both by political "pull" and by money. That is about the only way "public necessity" could be "proved." This would be such a luscious graft that the tendency would be to invite in more and more stations and to protect those stations one would find the state undertaking to fix a higher and still higher price.

No, Mr. Ehrlich, if you have no thought for the safety of the oil industry, at least please save your state from what we are safe in saying would be the worst era of graft in its history, and New York state has enjoyed some fairly "profitable" periods if common report can be believed.

## *Would Live by the Sword*

The statement of the Chrysler Corporation published in the newspapers of the country last week telling of the seizure of its plants by Lewis' striking unions probably is another evidence of what the oil industry can expect as Lewis' unions bring their "organization" of oil to a focus this spring.

The extent to which Lewis' oil unions will try to take physical possession of oil company property, pipelines, refineries and marketing facilities, seemingly will only be determined by the degree of awakening of public officials to their duty to enforce the law and see that owners have undisputed occupancy of their property. The severest criticism of our form of republican government is the way its officeholders, seemingly almost to a man, have sold out to the labor unions for votes or perhaps for much worse.

The Chrysler Corporation's paid announcement to the public told of the union's seizing the offices as well as the plants, capturing the mail trucks, and forcing the company to open up special offices elsewhere. One wonders where the much vaunted prowess of Uncle Sam's postal authorities was when the mail trucks were seized.

Chrysler calls this "a form of revolution", which it is. Now isn't it about time for property owners and stockholders in these corporations and all other law abiding citizens to have a little revolution of their own and see that the laws are enforced for the protection of peace and property?

There is an old saying that, if one lives by the sword, he will die by the sword. Maybe that is the proper answer to these labor union leaders who seem to be trying to emulate Lenin, Mussolini and Hitler?

## *Cargo Is Dutiable When Used As Ship's Supply*

*By Teletype*
N. P. N. News Bureau

WASHINGTON, March 22.—Foreign crude oil brought by tanker to a U. S. port and listed as cargo is subject to customs duties even though it never leaves the tanker, the U. S. Court of Customs and Patent Appeals has ruled.

Headley Asphalt Division, Sinclair Refining Co., appealed to court for exemption from the half-cent a gallon duty on 110,913 gallons of Mexican crude which it said never left the tanker but was transferred from the cargo tanks to the ship's fuel tanks while she lay in port at Philadelphia, pointing out that fuel supplies were exempt.

A lower customs court had held that the oil was dutiable, since it carried on the manifest as cargo and that the intent was to land it in the U. S. Most of the cargo of more than 2,000,000 barrels was landed, according to the court's decision.

Affirming the decision, the appellate court held that "in order for a ship's fuel supplies to be exempt from payment of duty, they must have had some existence on arrival of the vessel at a port of entry and have not been merchandise which is part of the manifested cargo."

## *Germany May Build Low Priced Autos*

N. P. N. News Bureau

NEW YORK, March 22.—The German government is said to be experimenting with full-sized models of a small, strongly-built automobile which it hopes will sell at a low enough price to interest the average German worker and bring about mass production. At present the number of passenger cars in Germany is below 1,000,000.

Details of construction have been kept secret, but reports are that one feature is a two-cylinder engine lodged just above the rear axle, which is capable of driving the car at a maximum speed of about 50 miles an hour. All except the most essential accessories would be dispensed with.

If and when the car goes into large-scale production it would probably sell at around $400 to $480, according to reports, compared to present German low-priced cars of around $560. To obtain this production, however, it is reported the car would have to be sold in Continental Europe outside of Germany, which would be difficult owing to high tariff barriers. Another bar to this production, Mr. Barnes states, is the fact that even at $480, it would take approximately nine-tenths of the average German worker's yearly wage to purchase one of these cars, with upkeep and running expenses still to be added.

### Natural Gasoline Data

WASHINGTON, March 22.—Natural gasoline produced in the U. S. in 1935 amounted to approximately 1,652,000,000 gallons, valued at $70,940,000, an average of 4.3 cents per gallon at plants, according to the Census Bureau's 1935 census of business.

Ten years earlier—in 1925—the production was less—1,127,470,000 gallons—but the value at the plant was 10.7 cents per gallon, or $120,383,000 in all.

During the ten years the number of operators of natural gasoline plants declined from 450 to 278, and the number of plants operated from 1081 to 715.

The natural gasoline industry provided employment for nearly 10,000 persons in 1935, the bureau estimates. Of these, the number of wage earners averaged 7997, salaried employes with headquarters at or near plants 1052, and central office employes 625.

Wages paid in 1935 totaled $10,567,000; plant salaries were $2,105,000 and central office salaries $1,752,000. A breakdown by states has been prepared by the bureau.

## *Survey Proper Heating For Cal. Citrus Groves*

LOS ANGELES, March 22.—California's oil industry will cooperate with civic leaders in combating the smoke nuisance caused by inefficient operation of citrus orchard smudge pots.

A joint committee has been organized with representatives from the oil industry, the chamber of commerce, the Los Angeles county board of supervisors and the fruit growers.

Representing the oil industry, as members of the California Oil and Gas Association, will be B. A. Moeller, General Petroleum Corp. and L. G. Metcalf, Union Oil Co.

It will be the purpose of this committee to work out a feasible plan whereby fruit growers can modernize their frost-protection heating equipment so that it will give off more heat and less smoke. Efforts will be made to determine the proper fuel to use for smokeless heating and a survey will be made with the view to improving oil distribution to the citrus areas.

# *Labor, 'Iowa Plan', and Crude Oil Control are Topics for N.P.A. Meet*

N. P. N. News Bureau

CLEVELAND, March 22. — Labor relations in 1937, the Iowa plan to avert chain store taxes, and restriction of crude production are three topics of importance to the oil industry that will draw delegates here to the 34th semi-annual convention of the National Petroleum Association April 15 and 16. Sessions will be held at Hotel Cleveland.

Wilmer R. Schuh, president of the National Association of Petroleum Retailers, will discuss the so-called Iowa Plan, which evolved after service stations had been classified as chain stores for tax purposes, under the title "Pilgrim's Progress of Petroleum Retailers."

Because of current efforts by John L. Lewis' Committee for Industrial Organization to organize oil workers, delegates are expected to give particular attention to Whiting Williams, personnel and public relations consultant, who will speak on "Management and Labor in 1937."

Quoting a sketch about Williams, Fayette B. Dow, general counsel of the National Petroleum Association, said: "The summers of 1934-5-6 proved to be the most interesting in all Whiting Williams' 17 years as an investigator of 'What's on the Worker's Mind.' A variety of labor disputes kept him busy interviewing not only on the picket line, but also talking with local citizens—editors, ministers, merchants, judges and shop keepers—to learn their attitude toward strikes, the New Deal, relief programs and so forth."

Williams has interviewed also workers in England, France, Germany and Russia.

A veteran of efforts at crude oil production control by interstate compact and federal regulation under the defunct NRA code, Ernest O. Thompson, member of the Railroad Commission of Texas, will speak on "The Importance of the Interstate Oil Compact to the Oil Industry in the Eastern Territory."

The three speakers will appear at the afternoon session on April 15.

Subjects announced for the Friday session are "The Foreign Situation and the American Oil Industry" by Henry M. Busch, professor of sociology at Cleveland College; "A Philosophy of Advertising for the Oil Industry" by John Benson, president of the American Association of Advertising Agencies; "Federal Taxation on Undistributed Profits and Capital Gains and Losses" by Ellsworth C. Alvord, Washington, D. C., and "The Value to the Public of the Oil Industry as a Free Enterprise" by Fayette B. Dow.

A group conference on Social Security Act tax problems as they affect the petroleum industry was announced for April 14 and forums on lubricating oils and traffic and transportation are scheduled for the morning of April 15.

## *Reduction in 'Gas' Tax Is Up To Wash. Voters*

N. P. N. News Bureau

LOS ANGELES, March 20.—Voters in the state of Washington will have a chance to sign a petition seeking a reduction in the gasoline tax. An initiative measure will be sponsored by C. H. Todd, senator from Seattle, to reduce the state tax on gasoline from its present level of 5 cents to about 3 cents.

Approximately 50,000 signatures will be required to the petition to qualify it for consideration at the next general election.

This action was indicated the past week following the veto by the Washington governor of a legislative measure designed to boost the gasoline tax. As Senate Bill 395, this proposal sought to raise the tax to 5.5 cents a gallon, as a means of raising additional funds for secondary highways.

Governor Martin, fulfilled his inaugural promise to be against tax increase measures, by turning thumbs down when the bill came to him for approval.

The governor did sign S. B. 711, which authorizes an investigation of all phases of the oil industry, including rates and regulations. Before it was amended, this bill called for making the oil industry in the state of Washington a public utility.

### Sanders N.O.M.A. Director

N. P. N. News Bureau

WASHINGTON, March 22.—Charles J. Sanders, vice president of Apex Oil Corp., Nashville, Tenn., has been elected a director of National Oil Marketers Association, succeeding Grover Keaton, who resigned from his N.O.M.A. directorship when he became treasurer of the State of Tennessee.

## *New Oil Association*

NEW YORK, March 22.—The Long Island Oil Terminals Assoc. has consolidated with a large group of independent bulk terminal operators in Westchester county to form the United Oil Terminals Assoc., Donald S. McAlpine, commissioner of the association, announced today. The new association will have a membership of over 30 terminal operators, with an annual sales volume of more than 120,000,000 gallons, it was stated.

Officers for United Terminals Assoc. are: Fred L. Hayes, Nassau Utilities Fuel Corp., Roslyn; Maxwell Katz, Town & Country Oil Corp., Mount Vernon; Harold E. Williams, Arrow Head Oil Co., Garden City; Benjamin V. Burdge, Harbor Fuel Co., Glen Cove and Charles Oettler, Fair-Chester Oil Co., Port Chester.

## *Prevention of Corrosion Is A.C.S. Topic*

TULSA, March 23.—A symposium on methods of combating corrosion in the field and at the refinery will feature the March 27 meeting of the Oklahoma Petroleum Section of the American Chemical Society.

Scheduled for the afternoon session at Tulsa are the following papers: "Paints for Preventing Corrosion," by E. J. Keating, General Paint Co., "Cathodic Protection," by D. B. Good, Texas-Empire Pipeline Co., "Sprayed Metal Coatings," by H. R. Leland, General Metallizing Co., and "Combating Corrosion in the Petroleum Refinery," by E. S. Dixson, The Texas Co.

## *Pacific Coast Gasoline Up One-Half Cent*

*By Telegraph*

LOS ANGELES, March 23.—The Standard Oil Co. of California today advanced its tank wagon and service station prices of all grades of motor gasoline one-half cent per gallon, through its Pacific Coast marketing area, including Alaska and Hawaii. These grades include Standard ethyl, Standard (regular grade), and Flight (third grade) gasolines.

Other major companies and the majority of independent marketers met the advance. Standard officials said the price adjustment was necessary to meet generally increased costs of doing business.

The last previous general change was a two-cent advance through the territory on April 13, 1936.

# Mich. Marketers To Talk Profits

PORT HURON, Mich., March 23.—A program pointing to the possibilities of increased sales and profits has been selected to interest oil jobbers and retailers who will attend the annual convention of the Michigan Petroleum Ass'n., at the Book Cadillac Hotel, Detroit, March 30, 31 and April 1, according to J. F. Wilson, president, The Star Oil Co., Inc., Port Huron, and president of the association.

The important speeches keyed to this subject are these:

"Developing Plus-Sales and Profit on the Drive," by O. F. Brickett, Sinclair Refining Co., Detroit.

"Possible Profits to the Jobbers and Retailers Through Marketing Premium Gasolines," by C. E. Smith, representative, Ethyl Gasoline Corp., Detroit. A film entitled "Power and Speed" will illustrate this talk.

"Merchandising at the Pump Island," by E. Gallmeyer, sales manager, Wayne Pump Co., Ft. Wayne, Ind.

A special retailers' day has been set for March 31, with the above three speeches scheduled for that day.

Other talks to be given March 30, are:

"Gasoline Tax Allocation," by Joseph C. Hadley, Gasoline Tax Division, Lansing, Mich.

"Michigan Petroleum Ass'n., Corporate Surety Bond Amendment," by G. E. Pulver, Pulver Oil Co., Lansing.

"Gasoline Weight and Temperature Adjustment," by George C. Newton, Lake States Oil Co., Iron Mountain, Mich.

Other speeches for March 31, aside from the three mentiond previously:

"The Interest of the Marketers in Trailer Travel," by Harold Aaron, of Aaron, Sill & Caron, Inc., Detroit.

"A Survey of Detroit Marketing Conditions," by Elmer Ledbetter, Detroit.

Talks for April 1 include:

"Gasoline and Modern High Compression Tractor Engine," by R. B. Hedden, representative, The Ethyl Gasoline Corp., Detroit.

"Marketing Conditions in Ohio," to be reported by C. H. Kaiser, vice-president, The Star Oil Co., Inc., Port Huron, Mich.

During the special retailers day, March 31, there will be a report on the retail dealers association by N. D. Reason, secretary, Lansing, and the aims of the association will be reported by William O. Youngblood, chairman, Saginaw.

# Richfield Picks Executive Staff

N. P. N. News Bureau

LOS ANGELES, March 20.—Key positions in the operating cabinet of Richfield Oil Corp. have been filled by President Charles S. Jones, to aid him in consolidating activities of the old Richfield system with those of Rio Grande Oil Co.

R. W. Walsh will head marketing operations as general sales manager of the new concern. With over 20 years of marketing experience to his credit, Walsh is not a new figure in the oil industry. He was largely responsible for building up the Walburn Oil Co. on the east coast prior to its acquisition by Richfield for a nucleus for Richfield Oil Corp. of New York.

At the time of this acquisition, Walsh joined Richfield's Pacific Coast organization as general sales manager, in which capacity he has continued.

The sales organization of the new Richfield was further strengthened by the appointment of O. H. Muller as assistant general sales manager. He first became associated with the oil industry in 1918 in West Texas and in 1928 resigned as assistant to vice president in charge of sales for Pure Oil Co. to become sales manager of the New York Richfield.

In 1930 he was transferred to the Pacific Coast to head up the company's retail marketing activities as president of Richfield Stations, Inc. During this time he also served for three years as president and board chairman of Universal Consolidated Oil Co., Richfield subsidiary.

G. C. Noble, well known in petroleum marketing circles on the Pacific Coast, was also appointed assistant general sales manager of the reorganized company. He joined Richfield in 1931 as manager of the automotive department and was later transferred into the sales department, where he had charge of the southern and northern divisions.

**Other Changes**

In 1935 he was made assistant to R. W. Walsh, a position he held at the time of reorganization. Prior to joining Richfield, he served with Shell Oil Co. as purchasing agent, manager of the land department, and finally as secretary having jurisdiction over land, insurance, tax, pipe line, transportation and legal departments.

R. D. Montgomery was appointed manager of the production department of the new firm, in charge of exploitation. Following graduation from the University of California, he entered the oil business in 1910 in charge of small producing properties in the Midway-Maricopa field.

From there he joined Standard of California in 1916 and for the next ten years was in charge of all development, acquisition of lands and other activities of this nature in the northern part of South America and in Central America for that company. He joined Richfield in 1926 as manager of the land department and has been in charge of production, land and lease, petroleum engineering and processing of natural gasoline since that date.

Exploration work for Richfield Oil Corp. will be in the hands of Frank A. Morgan as manager. After graduating from the University of California he served various oil groups as geologist and petroleum engineer. It was in this capacity that he assumed responsibility for the drilling of the famous Elwood field, which justified his appointment as chief geologist of Rio Grande March 1, 1929. He was subsequently elected a vice president and director of that company.

# Tax Case Before U. S. High Court

N. P. N. News Bureau

WASHINGTON, March 22—The question of whether state taxes should be collected on gasoline when it comes into a state or when it is withdrawn from storage in that state, is before the Supreme Court.

Standard Oil Co. of Indiana has asked the high tribunal to rule on the legality of Michigan's tax collection during 1927-1929 on the basis of gallonage received at Standard's Michigan bulk depots, instead of on the gallonage shipped from them.

In a petition for a writ of certiorari, Standard says that an amendment to the Michigan gasoline tax law in September, 1927, made the state gasoline tax collectable from the wholesale distributor instead of the dealer, and that the Michigan Secretary of State ruled it should be collected on gallonage received at storage terminals.

After considerable protest, according to the petition, the state attorney general agreed with the company that the purpose of the tax was "to impose a tax for the privilege of using public roads and highways by owners and drivers of motor vehicles," and that it could be collected on the basis of gallonage shipped from the tank farms for distribution and sale.

In 1929 the laws were amended, removing the interpretation in question, and, according to the petition, no more was heard of it until in 1932, when a state auditor went over the company's books, and shortly afterward the state notified the company of a claim for unpaid taxes amounting to $95,248.89.

The amount involved was arrived at, the petition says, by multiplying the three-cents-per-gallon state tax by 3,174,963 gallons of gasoline, which represents the difference between receipts at the tank farms and shipments from the tank farms during the period in question.

A special master, appointed to hear the controversy, held with the state, as did a lower federal court, whose decision the company now seeks to have the U. S. Supreme Court reverse.

# Madison Jobber To Sell Stock

MADISON, Wis., March 22.—A $300,000 common stock issue to retire indebtedness to the Barnsdall Refining Corp., and to provide working capital and funds for expansion has been announced by the Pennsylvania Oil Co. here.

Termination of the Barnsdall exclusive dealing contract, entered in 1932, would enable the Pennsylvania Oil Co. to purchase gasoline on the open market one-half cent a gallon less than the contract price, the stock prospectus indicated. A further savings in ending the Barnsdall deal would be $9000 annually on compulsory interest charges due Barnsdall.

**Made Deal in 1932**

The Pennsylvania Oil Co., after marketing under its own brand for about 12 years, on a reorganization in 1932 entered into the exclusive contract and a financial arrangement with Barnsdall.

For three years prior to the transaction the company earnings were over $30,000 annually, the stock issue prospectus showed. Since the exclusive contract the company's earnings have averaged $1000 annually over four years.

Gasoline volume last year was about 3,400,000 gallons. In addition to open market gasoline purchasing, under the proposed operating plan, the company plans to market accessories, tires and batteries.

The stock issue is to be 100,000 shares at $3. The issue is being marketed by a Madison investment company.

# Teagle to Fight Bolivian Decree

N. P. N. News Bureau

NEW YORK, March 22.—The Standard Oil Co. of Bolivia will fight for its title to the Bolivian oil concessions and company properties which the government has just cancelled, Walter C. Teagle, president of the Standard Oil Co. of New Jersey, which owns the Bolivian Standard, stated today.

The Bolivian government on March 16 issued a decree cancelling the concessions and confiscating the company's holdings in the country, charging fraudulent methods of operation. The concession covers over 2,000,000 acres and was given to Standard in 1922 for a period of 55 years.

The present charge, dating back to 1925, involves a dispute as to when production actually started on the concession. The issue has been before the Bolivian courts since 1931 and is still in litigation.

At Washington State Department officials said they had not been notified by Standard officials of the alleged confiscation of Bolivian concessions.

At the Bolivian Legation it was said that Minister Luis F. Guachalla had called at the State Department to explain that the action of his government was not to be interpreted as an action against investment of foreign capital in Bolivia but was taken because the company had violated contractual obligations with respect to payment of royalties on oil exported.

## *Canada's Ethyl Sales Up 53 Per Cent*

TORONTO, March 22.—Sales of ethyl gasoline in Canada in 1936 increased over those for 1935 by 53.42 per cent, a rate of increase more than double that for the United States. A more rigorous winter climate was said to account for this higher rate of increase.

Sales for 1936 in Canada totalled 69,000,000 gallons compared with 45,000,000 gallons in 1935. British Columbia reported the highest percentage gain.

The following table show gallons consumed in each of the two years, in millions of gallons, and the percentage increase by provinces:

| Province | 1936 | 1935 | % Increase |
|---|---|---|---|
| British Columbia | 3.6 | 1.4 | 157 |
| Saskatchewan | 1.8 | 1.1 | 63 |
| Alberta | 2.7 | 1.6 | 69 |
| Manitoba | 2.2 | 1.3 | 69 |
| Nova Scotia | 1.6 | 1.0 | 60 |
| New Brunswick | 1.9 | 1.2 | 58 |
| Ontario | 25.5 | 16.6 | 53 |
| Quebec | 30.0 | 20.7 | 44 |
| Prince Edward Is. | 0.12 | 0.09 | 34 |

# Mussolini Wants Oil Independence

LONDON, March 12.—Efforts to establish Italy's independence from the rest of the world for its petroleum supplies were pushed vigorously by Mussolini during 1936. Restrictions on oil trade with Italy during the Abyssinian campaign were modified by reductions in import duties which stimulated internal consumption and attracted additional refinery construction on native soil.

Although Italy's consumption in 1936 was above previous normal years, it was considerably below the level of 1935, when the conquest of Abyssinia was demanding heavy supplies. The peak reached during that year is unlikely to be surpassed soon, although the expansion of automobile traffic will keep Italy in the list of increasing petroleum consumers for some years to come.

Construction of one of the largest refineries in Europe was commenced at Trieste last year for the Aquila S. A. Tecnico-Industriale, a state-licensed refining enterprise. This will have a capacity of 6000 barrels of crude daily and it is intended to supply fuel and diesel oil to several Italian shipping lines through its wharving system.

### New Solvent Unit

Raffineria di Napoli (Socony-Vacuum) at Naples is also launched on a development program, which will be completed by the middle of the current year. The concern is making changes in its distillation equipment and is installing a solvent refining and de-waxing process. A Duo-Sol plant with a capacity of 1000 gallons daily is being installed. Only minor changes in the previously existing combination skimming and cracking facilities at the Naples refinery were needed to incorporate the solvent equipment in a compact unit. Plans call for completion of the solvent unit in April.

Apart from the work on refineries, the ground work was completed during 1936 for a big expansion of hydrogenation.

The Azienda Nazionale Idrogenazione Combustibili, a new enterprise, was organized during the latter part of 1936. Using the Montecatini Co., a firm specializing in the development of chemicals, as a nucleus, the Italian government joined in forming the A. N. I. C. Later, the International Hydrogen Patent group, including the Standard Oil Co. of New Jersey and the Royal Dutch-Shell group, joined with A. N. I. C. Plans are now nearing completion for construction of plants at Leghorn, Bari, and in Valdarno, province of Florence, where abundant reserves of lignitic and bituminic shale deposits exist.

The Bari plant is to operate on heavy crude produced in the Kucciova field of Albania and moved to the Albanian coast by an 85-kilometer pipeline for shipment to Bari.

Considerable significance attaches to the appointment of Dr. Arnaldo Petretti as vice governor-general of Abyssinia. Dr. Petretti is a former vice president of the Azienda Generale Italiana Petroli and a member of the Supreme Mining Council of Italy. He has set up his headquarters at Addis Ababa, and it is stated that his first interest will be the carrying out of a petroleum exploration program.

# *100,000 Miles Of Secondary Roads Completed By WPA Funds*

N. P. N. News Bureau

WASHINGTON, March 22.—Almost 100,000 miles of secondary roads — graded, graveled, covered with treated gravel, bituminous surfaced or, in a few cases, concrete surfaced—have been completed on projects of the Works Progress Administration.

Projects now in progress, when completed, will add 50,000 more miles, according to WPA figures.

Almost 20,000 miles of the road projects completed and under construction have been or will be paved. Since they are secondary roads, concrete and other so-called "high type" surfaces are being used in smaller percentage than on a primary road program, with the result that bituminous surfacing and other petroleum products are being used in a greater degree. No figures as to the exact ratio are available.

The so-called "unpaved" roads, too, utilize oil for treating, and countless thousands of gallons of motor fuel and lubricating oil are being used in the tractors and other road building machinery.

WPA's bill for petroleum products used on all projects through Oct. 1, 1936, was over $30,000,000. As of the same date the cost of the farm-to-market and secondary roads program to the WPA was $284,820,695, including projects completed and under construction.

During 1936 an average of 275,000 men were employed on WPA secondary road projects, and this type of highway construction has played an important part in the WPA program from the start. Almost 15,000 separate secondary road projects are listed at WPA headquarters.

Prior to setting up the WPA, the FERA constructed 41,229 miles and improved 193,935 miles of roads, and even before FERA, the Civil Works Administration constructed an estimated 45,000 miles and improved 210,000 miles.

These figures reveal that more than 600,000 miles of farm-to-market roads have been constructed and improved, or are now under way, through federal emergency relief activities.

## *Block Tax Diversion In Alabama*

N. P. N. News Bureau

BIRMINGHAM, March 22.—For the first time since its organization, the Alabama Petroleum Industries Committee has been able to get action on bills it has sponsored in efforts against tax diversion, Earl M. Hearne, secretary, said.

"Local county petroleum committees have done excellent work in presenting the facts to the public," he commented.

Senate Bill 83, providing for repeal of local bills which permitted certain counties to divert their shares of the state gasoline tax to other purposes than road building, was signed by Gov. Bibb Graves. It will be effective July 1, 1937.

House Bill 112 provided for a referendum at the next general election in November, 1938, on a constitutional amendment prohibiting diversion of the gasoline and other special motor vehicle revenues. This bill was endorsed by the Alabama Highway Users Conference at the request of Hearne.

Efforts of the Highway Department to back a gasoline tax of an additional cent per gallon for the purpose of matching federal aid were fruitless. No such bill was introduced.

## *Pa. Legislature To Vote On Oil Investigation*

HARRISBURG, Pa., March 22.—Action this week is expected in the Pennsylvania legislature on a joint resolution to appoint a commission to "make a thorough and impartial investigation into the operation of the oil industry" in Pennsylvania.

The resolution, introduced with the backing of Governor Earle, calls for appointment of a five-member commission—three members to be named by the governor, one by the speaker of the House and one by the president pro-tem of the senate.

Following its investigation, the resolution directs the commission to report to the governor "its findings as to whether or not the oil industry is so affected with the public interest as to require statutory regulation; and its recommendations, if any, as to legislation needful to correct any abuses and evils connected with the whole operation of the oil industry in this Commonwealth, which are prejudicial to the interests of its citizens."

## *Oil Burner Shipments Show Rapid Gains*

N. P. N. News Bureau

WASHINGTON, March 22.—Impressive gains over previous years were registered in 1936 shipments by American manufacturers of oil burners, both of the heavy oil-burning and distillate-burning types according to Census Bureau figures.

The figures, which show the tremendous growth in popularity of oil as a fuel, record an increase of 51.4 per cent in 1936 shipments of distillate burners over 1935, and an increase of 41.7 per cent during the same period in burners for heavy oil.

Even more impressive is the 125.8 per cent gain recorded by 1936 distillate burner shipments over 1934 shipments, and the 95.5 per cent gain for the same period in heavy oil burner shipments. A tabulation of the shipments for comparison follows:

| | 1936 | 1935 | 1934 |
|---|---|---|---|
| Heavy oil burners* | 196,877 | 138,899 | 100,692 |
| Distillate burners* | 408,520 | 269,825 | 180,901 |
| Total | 605,397 | 408,724 | 281,593 |

*Heavy oil burners are those consuming fuel oil of Commercial Standard No. 1 grade, or heavier, used for application to central heating plants, industrial ovens, heat treating furnaces, etc. Distillate oil burners are used in ranges, stoves, water heaters and space heaters.

# WASHINGTON

By A. M. PETTY
N. P. N. Washington
News Bureau

## From the Crown Block . . .

WASHINGTON, March 22

Some of the horse-trading revolving around President Roosevelt's plan to pack—or unpack, if you feel that way—the Supreme Court, will be showing up in legislation long after the battle is over.

Administration leaders at both ends of the Capitol are exerting all kinds of pressure and making many promises to win votes. Some members, sitting on the fence, are asking support for their pet bills as the price of their votes for the President's court plan.

Not all the trading and log-rolling is on the Administration side. Some chairmen of congressional committees are opposed to the court plan. They, too, are seeking votes for their side and can also be helpful in getting pet bills passed.

**Debts to Pay**

After the Supreme Court fight is over, regardless of whether the President wins or loses, there will be debts to pay and scores to settle on Capitol Hill.

Much of the legislation to be passed by Congress is being decided right now. This is in addition to the flock of New Deal measures which the White House will send down to Congress for rubber-stamp approval —IF the President succeeds in getting a "friendly" Supreme Court.

**Connally Bill Involved**

Fate of the bill by Senator Tom Connally of Texas, to make permanent the "hot" oil law bearing his name, may be tied up in the court battle.

Independent oil marketers opposing the measure have been doing a lot of missionary work and they believe that supporters of the Connally Law will be surprised at the amount of opposition developing in Congress.

If the Connally Law runs into any formidable opposition, help from the White House may be needed to get it through Congress.

Senator Connally, one of the most outspoken opponents of the President's court plan, probably would get a cool reception if he sought aid of the Administration to get his bill through.

And on the House side, Congressman Martin Dies of Texas, who sponsored a companion measure to the Connally Bill, is not exactly breaking his neck on behalf of the court proposal.

**Spanking the Senator**

With less than three months before the Connally Law expires on June 16, it might not be difficult for opponents to stall off a vote until then.

How could the Administration more effectively spank Senator Connally than to let the law expire and then push through a similar measure, but without Connally's name tagged on it?

* * *

### Anti-Trust Laws

Attorney General Cummings believes that the anti-trust laws need "reforming," but whether by tightening or loosening them up, he does not say.

Friends of Cummings say that he favors stricter laws, but publicly the attorney general remains on the fence.

Cummings' remarks anent the Justice Department's investigation of "collusive bidding" charges against the steel companies could be taken either way.

**Steel Case Stymied**

The attorney general told newspapermen a few days ago that the department's steel investigation is practically at a standstill and that its report was being held up because of the "unsettled status of the anti-trust laws and their defects as they now stand."

It is Cummings' opinion that the anti-trust laws have been devitalized, as it were, by the interpretation placed on them by the courts.

With that background in mind, Cummings' remarks might mean he favors broadening the scope of the anti-trust laws and clamping down on practices which are now beyond the reach of such statutes.

**Industrial Control**

He went on to remark that legislation to solve the "difficult" problem presented by the anti-trust laws in their present shape inevitably leads to discussion of industrial regulation.

"Lawmakers couldn't write wage and hour legislation without running into the question of the anti-trust laws," Cummings said.

Throughout his remarks, Cummings was vague—perhaps purposely so, about what direction this proposed "reformation" of the anti-trust laws should take.

**Suspend Laws?**

There is much talk around Washington that the Administration's plans for revival of NIRA principles include suspension or loosening up—to put it more baldly than do the New Dealers—of the anti-trust laws so that members of an industry could get together and co-operate to solve their mutual problems without risk of an anti-trust suit.

Maybe this is what Cummings had in mind.

* * *

### New Government Council

Reports that J. C. B. Ehringhaus, former governor of North Carolina, would be named to head up the government counsel trying the anti-trust oil cases at Madison, Wis., died of malnutrition. Newspapermen were never able to get either a denial or confirmation out of Attorney General Homer S. Cummings.

Now a new rumor is going the rounds. It is that the Department of Justice has hired Charles Crawford of Superior, Wis., to be chief counsel in the trial of the oil cases.

* * *

### Anti-Pollutionists

A dramatic demonstration of the arbitrary attitude of some anti-pollutionists occurred during the hearings before the House committee.

Congressman Joseph L. Pfeifer of Brooklyn, N. Y., was defending his bill, to outlaw all stream pollution, against charges of committee members that it was "too drastic." He described how badly poluted by sewage and industrial wastes were some waters around New York City.

Interposing, Congressman Francis D. Culkin of Oswego, N. Y., pointed out that such precipitate action, as Pfeifer proposed, would place a sudden and unbearable burden on some industries.

**"Starve to Death"**

Then, the following colloquy ensued:

Pfeifer: But we must not consider dollars and cents in a matter of life and death like this—what's the use of having a country if the people can't exist?

Culkin: Of course, if we pass drastic legislation like this and force industries to shut down, the people will lose their jobs and starve to death—that would be a quicker process, however.

* * *

### 14,000,000 Gallons

The Treasury Procurement Division still has not made up its mind as to handling of consolidated contracts for purchasing service station requirements of the government's field men.

But it hopes to evolve a workable plan suitable to the oil companies, so that bid invitations can be sent out next month.

A canvass of governmental agencies indicated that requirements for service station deliveries will total annually about 14,000,000 gallons of gasoline and 2,000,000 gallons of lubricating oils. Of the gasoline, 12,000,000 gallons will be regular grade and 2,000,000 gallons premium.

Besides this, the TPD is now buying annually by tank car and tank wagon delivery well over 100,000,000 gallons of gasoline and 60,000,000 gallons of fuel oil.

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## *U.S. Court Okey's Plan To Reform Cosden Oil*

FORT WORTH, March 20.—Final approval of the plan of reorganization for Cosden Oil Corp., under Secion 77-B of the Federal Bankruptcy Act, was given March 17 by Federal District Court Judge James C. Wilson of Fort Worth.

March 22 was date set by the court for a hearing on approval of transfer of property from the old corporation to the new, which will be called the Cosden Petroleum Corp.

More than the required two-thirds of holders of each type of creditors had assented to the reorganization plan. The obligations consisted of $1,607,988 in first mortgage bonds; $1,621,784 in second mortgage bonds; 36,489 shares of preferred stock and $104,648 in unsecured claims. The court had previously held that consent of common stockholders was not necessary, as the value of the company was not sufficient to cover the obligations.

The reorganization will be underwritten in New York and about $500,000 of new capital will be put into the company. J. S. Cosden will be president.

# Better Oil Finding

(*Continued from page 9*)

derground storage, it was estimated some thirteen billion remained in underground reserves.

Roughly nine-tenths of the total volume was found in the last 35 years, the author said; but "perhaps the most arresting feature of this record of the progress of discovery is the fact that 40 per cent of all our oil was discovered within a period of only five years, 1926-30. More than half the total was found within ten years, 1921-30."

A generally accelerated rate of discovery was shown for the U. S. at large, and for each of the three most important producing states, throughout the first three decades of the period under review. In each case the rate of discovery reaches a conspicuous peak in the period 1926-1930 and falls abruptly thereafter.

To answer the question of whether the volume of reserves discovered constituted a really significant measure of the success of oil finding, Mr. Pratt offered a table showing the success in discovery effort on the basis of new oil fields found. This table showed the number of major oil fields found, since 1900 to the end of 1935, in the U. S. and for each of the three important producing states, California, Oklahoma, and Texas.

**Discoveries Tabulated**

A major oil field was defined for the purpose of this paper as one with ultimate reserves of more than 20,000,000 barrels. The table included nearly 200 such fields, whose average size was more than 100,000,000 barrels. Collectively they account for nearly 80 per cent of all oil discovered in the U. S. during the 35-year period.

However, here too the curve of discovery showed a gradual rise through successive five-year intervals from 1900, to a conspicuous peak in the half decade 1926-1930, followed by a sharp drop at the end. To the author this indicated that oil finding really passed through a maximum of accomplishment in the late 20s.

Before looking into possible explanations of the character of this discovery record, it was thought pertinent to study methods followed by the industry for finding oil in the past.

This provided material for a third table in which the discovery of major oil fields in the U. S. over successive five-year periods was classified as to method of discovery.

The results showed 31 major fields, or 15.8 per cent of the total, were discovered as a result of purely random drilling in the 35-year period. This came under the category of pure "wildcatting."

Discoveries resulting from obvious evidences, such as oil and gas seepages at the surface or in shallow wells, and in less direct evidence such as general trends, mounds over salt domes, or other points of uplift on constructional surfaces, totaled 36.5 fields, or 18.6 per cent of the total.

It was of interest in this connection that the peak in the percentage of discoveries from such surface indications was reached in the 1901-1905 period, when seven fields, or 70.0 per cent of the total were found. The author was unable to credit a single discovery to obvious evidence in the 1931-1935 period and only 5.5 fields, or 9.3 per cent to this method in the critical 1926-1930 period.

No discovery of this character was credited to geology, although the difficulty was pointed out in eliminating all geologic inference from the considerations that must have prompted these exploratory enterprises.

**Geological Discoveries**

Geological discoveries, consisting of all major fields found as a result of geologic exploration, either surface or subsurface studies and including core drilling, accounted for 92.5 fields, or 47.3 per cent of the total.

The peak in this method was reached in 1916-1920, when 17 fields were discovered, or 73.9 per cent of the total for that period. After a decline in the next five years, geological discoveries again increased in 1926-1930 to 37 fields, or 62.7 per cent. However, in the final five-year period of this study, only 12.5 fields, or 30.5 per cent of the total, were discovered by geological means.

Discoveries resulting from geophysical investigation did not show up to advantage in considering the entire 35-year period, although 28 fields, or 14.3 per cent of the total were attributed to this method. From a start of 5.5 fields, or 9.3 per cent in 1936-1930, this method forged rapidly to the front in the next five years with 22.5 fields, or 55 per cent of the total acountable to its credit.

Deeper drilling in territory already producing in shallow sands was shown to have accounted for 8 fields, or 4.1 per cent of the total. The peak was reached for this method in 1925-1930 when 6 fields were discovered, or 10.2 per cent of the total for the period.

**Geology Pays Its Way**

"It may be observed that strictly geological studies are responsible for the discovery of nearly 50 per cent of the major oil fields found in the U. S. during the past 35 years and that pure 'wildcatting' has yielded only 17 per cent of the total," stated Mr. Pratt.

"Only 19 per cent of our major fields have manifested themselves at the surface with sufficient clarity to be identifiable except by an expert. If the effort we put forth had depended solely on luck and obvious evidences, we would have found only 36 per cent of the major oil fields we have found over this 35-year period.

"For the last ten years the situation in this respect is even more striking. Our discoveries for the last ten years number 100 major oil fields; more than the number discovered in the preceding 25 years. But only 4.6 per cent of these resulted from obvious evidences and only 10 per cent were due to random-drilling type of wildcatting.

"Geological studies maintain their overall record of discovering 50 per cent of our major oil fields, and geophysical exploration, closely akin to geological exploration, is responsible for 28 per cent of the major oil fields found during the last decade.

"If the results of geology and geophysics are combined, they include 78 per cent of our finding accomplishment during the last ten years. Obvious surface evidences and random drilling together have revealed only 16 major fields (16 per cent of the total) within the past ten years; less than half their previous contribution."

The author then commented on the relative accomplishment of each method of exploration throughout the period under review. He drew attention to the importance of random drilling and obvious evidence early in the period and the relative failure of these methods to cope with the problem of finding hidden structures.

On the other hand, it was thought unlikely that as many as seven major oil fields would be found per year over a five-year period by geological exploration—the record set by this method for the 1926-1930 period.

"Most obvious oil fields appear to have been found," the author said, "and the number of wildcat wells drilled at random has fallen off in recent years. Our geological discoveries are definitely fewer in number and constitute a smaller proportion of the total discoveries over the last five years.

"Only geophysics continues to maintain its accomplishment. All he older methods combined have yielded only 19 major oil fields in the last five years, a number smaller than the achievement of these methods for any similar period since 1915.

"A rough gauge of efficiency in oil finding is the number of dry holes drilled per major discovery. If our only method of exploration were random drilling or wildcat wells this index would be more significant.

"Our recently improved methods of exploration in advance of drilling have enabled us to reduce the number of dry holes drilled per discovery. Over the nation at large we have drilled about 1000 dry holes for each major oil field found up to the end of 1935. But in recent years this ratio has fallen markedly until, during the last five years, it has averaged only 500 dry holes per major discovery."

Mr. Pratt had an answer for those who held to the belief that a smaller volume of oil in reserve would be justified. He granted that considered merely as an inventory, reserves were undoubtedly heavy, "but, as a true reserve, to be drawn on only as needed, our underground storage constitutes no burden, and is not too large."

## *Efficient Production Calls For Slower Rate of Taking Oil from the Ground*

Another aspect of the nation's reserves, apart from their adequacy as a supply, he stated, depended upon the manner of production. "If oil is to be produced efficiently, with recovery reasonably complete and unit cost low," the speaker said, "it must be produced at a rate slower than we have been accustomed to in the past.

"The optimum rate of production for a given pool depends, among other factors, upon the size of the reserve. The rate of production necessary to meet our national needs has risen to a point where present reserves are barely large enough to permit efficient production at the required rate.

"This fact is coming to be recognized despite our current ability to produce, temporarily, in excess of market demand. This consideration makes it desirable to maintain our reserves at something like their present volume, even though we could do with smaller reserves, so far as other purposes are concerned. We need about our present reserve to permit efficient production at our present rate of consumption."

The author then drew the con-

clusion that, if the established rate of discovery is to be maintained, an improvement is necessary in the finding technique. Recent efforts to this end were outlined in the form of geophysical methods for determining structure at greater depth.

The limit to which a well can be drilled and a limit to the depth at which oil may be encountered even where structural conditions are favorable, were pointed to as restricting discoveries of deeper oil in regions already proven productive.

**Geologists Needed**

If an active deliberate search for stratigraphic pools is undertaken by the producing industry (as recommended by Levorsen), the author thought two reversals in recently established trends may be anticipated; "namely, (1) the recently manifested decline in dry holes per major discovery will be arrested or reversed; (2) the demand for competent geologists, which has slackened recently in favor of geophysical exploration, will be quickened."

In summary, the author said: "Our discovery rate in oil finding was rather uniformly accelerated as the industry expanded through the period subsequent to the year 1900 until, over the years 1926-1930, it reached a peak more than double our current rate of consumption. Thereafter it declined sharply until it averaged, over the next five years, only 70 per cent of our current rate of consumption.

"This is true whether discovery rate is measured in terms of barrels of reserves found, or in terms of major oil fields found. Geological exploration has been dominantly our most effective finding method in the past. It has been less effective over the past ten years than previously, and has definitely yielded leadership to geophysics over the last five years.

"Whether failure of the discovery rate to maintain its earlier pace is to be explained as an effect of the recent industrial depression, as is generally assumed, or by the inadequacy of our finding technique to cope with increasing difficulty of oil finding, may be debatable, but the evidence supports the latter as a major contributing factor.

"We now drill fewer dry holes per major discovery than formerly, but this trend may be arrested or reversed in future exploration. Our proven reserves, now about 13 billion barrels, are probably adequate or even excessive, viewed solely as a reserve supply, but they should be maintained at their present level to permit of production in an efficient manner and at the same time at the rate necessary to meet consumption.

"Our finding technique definitely needs to be strengthened. Merely finding structural traps at greater depths and drilling deeper wells to tap them, as we have been doing in recent years, promises too little to permit us to rely upon it alone.

**"Stratigraphic Traps"**

"The most likely means of improving our oil finding accomplishment is embodied in Levorsen's suggestion, made a year ago, that we initiate an intensive search for 'stratigraphic traps.' This enterprise, if adopted, may be expected to cause an increase in the ratio of dry holes to discoveries, and to quicken the demand for expert geological supervision. But it should accomplish its purpose; namely, the discovery of important additional reserves of petroleum."

While assembled delegates were still thinking along this direction, Earl DeGolyer, consulting geologist, New York, offered "The Future of Petroleum Exploration in the United States".

There was no equivocation in the subject matter of this paper. Right at the start the statement was made that prospecting for new deposits of petroleum is important to a degree not true in any other type of mining.

This cannot be otherwise, the speaker thought, in view of demand for petroleum products. "Currently" he said, "the equivalent of ten to twelve 100 million-barrel pools is required annually to keep proved reserves, which have never been too great, in balance with the annual consumption of one billion to one billion, two hundred million barrels now indicated for the U. S. alone.

"We now consume annually more petroleum than was produced during the first half of the duration of the industry. We consume annually more than the equivalent of five or six Spindletops; two or three Long Beaches, Cushings, Salt Creeks, Bradfords or Oklahoma Cities; one and a half Conroes, Yates, or Kettleman Hills; or a third to a fourth of a phenomenal East Texas pool.

"All of the oil produced in Pennsylvania since the beginning of the industry or all of the oil produced in the Gulf Coastal Plain of Texas and Louisiana, as a result of 35 years of intensive research and development, is ufficient to meet only one year's requirements. The entire past production of California, the banner state, would meet our national requirements for only five to six years at the present rate of consumption.

"In fact, all the petroleum hitherto produced in the 77-year life of the industry in the U. S. is sufficient to satisfy our requirements at the present rate of consumption for only 15 to 17 years."

Although attention was drawn to the apparent premature concern for future reserves in the past, the author said: "But although we cannot prove it, common sense tells us that we cannot continue at our present rate of production indefinitely nor, in terms of the life of a nation, very far into the future.

"That we as a nation should live only for today and willingly and carelessly deplete our petroleum reserves to the point where we may soon be left with only an inadequate and high cost production and, as the greatest consuming group in the world, be at the mercy of foreign supply and foreign prices seems to me to be unthinkable."

## *Program is Suggested to Provide "Wise" Use of Oil Resources*

Wise use of our petroleum resources were thought to require several things:

1. Admit and even welcome foreign oil insofar as it can be done without too great dislocation of our own industry;
2. Encourage American companies to secure foreign reserves;
3. Advance the technique of prospecting for oil;
4. Advance the technique of producing oil;
5. Increase the efficiency of refining processes;
6. Increase the efficiency of our use of motor fuel; and
7. Refrain from the less desirable uses of oil, such as burning it for fuel.

This outline was submitted with the admission that agreement was not expected and that parts of it might be impracticable, but the speaker was sure of the need for advancement of techniques of prospecting and production.

In this respect, he outlined the history of prospecting for petroleum and pointed to the first use of the physicist as an aid to the geologist. Following the first and greatest successes of geophysics in the finding of additional salt domes in the Gulf Coast Area—an area previously amenable only to a type of prospecting hardly more rational than random drilling—the use of these techniques developed rapidly, it was declared. The possibility was seen of exhaustion or at least the point of considerably diminished returns from the use of existing techniques.

"Geophysics has grown up too much alone for the greatest advancement of its usefulness as a prospecting tool", the speaker said. "In the broadest sense, it is the science of earth physics and includes geology among a host of other sciences. As we know it in the petroleum industry, however, it is strictly a geological tool—new implementation for the geologist who, by its use, can secure important and critical geological information not otherwise available to him."

**Subsurface Studies**

The speaker thought that, while some techniques would fade in their importance as prospecting tools, subsurface studies were the one continuing technique likely to be used as long as there is an industry. However, he pointed to changes in this technique, which started with the use of drillers' logs, then determination from samples and cores, then paleontological determinations with the aid of micro-paleontology, and not electrical logs.

It was thought not too much to look into the future and see deep wells drilled for geological information alone.

A trend over the 20 years during which prospecting was emerging from the broader field of production as a separate and definite technique, indicated in the mind of this speaker the establishment of prospecting or exploration on a basis almost as distinct from production as in refining or marketing.

"The exploration development of the future," he said, "will include geological work; subsurface, stratigraphy, paleontology, geophysics; scouting, engineering, land and leasing, as it does effectively in many of the best organized companies of today, and it will also include organization for the drilling of exploratory wells.

"Its business will be strictly that of securing oil reserves and for greater effectiveness, it will be relieved of all other duties insofar as possible.

"Three definite and outstanding advantages should result from such form of organization. First and foremost should come the development of special equipment and practice for the drilling of exploratory or wildcat wells.

"Secondly should come the development of cost accounting and statistical control adequate to determine the all-important cost of oil finding.

"Thirdly, the focusing of attention on exploratory effort and fixing of responsibility for degree of success should advance materially the development and application of the technique of prospecting.

"Exploratory wells—wildcats

—are being drilled with the same type of equipment and by the same practice as wells intended to develop proved fields. Located in unproved ground and often without definite objectives, they are generally more costly than development wells. Ours is unique among the mineral industries again, in that the prospect hole is more costly than the mine.

"This condition exists because we have never considered ourselves able to prove the existence of commercially important oil deposits without actually completing a producing well. I suggest, however, that with improved coring, core analysis, electrical logging, casing perforation, stage cementing, drill stem testing, etc., we have advanced very far in perfecting testing methods. We should be near the point where we can determine whether or not oil in commercial quantities is present without actually completing a well.

"It is even conceivable that the future may see wells drilled solely for the purpose of securing electrical logs. If negative results should be secured, in most instances the prospect would be condemned as surely as by a large and expensive hole.

"If positive, the actual drilling of the discovery producing well and the setting motion of the long train of consequences which follow discovery—the oftentimes enforced development of an oilfield—might be postponed to suit the convenience of the prospector.

"I believe that students of the problems of prospecting will agree that we are reaching the point where we shall be prospecting in the U. S. more and more for the so-called stratigraphic rather than for the purely structural accumulations and that these pools will require considerably more drilling for discovery than the structural type of field.

"Many of the wells will be drilled essentially for geological information—glorified core drilling. This development of prospecting technique will make it even more imperative to develop a technique of prospecting drilling distinct from, and much cheaper than, existing types of drilling for production.

"Second in importance should come the establishment of cost accounting as a control over our prospecting effort and more critical statistical analyses of our successes and failures in prospecting.

"Above all, we should determine the cost of oil finding—the cost of reducing oil reserves to reasonably knowledgeable possession, and one of the most important costs in the entire oil industry.

"Company accounts are not set up generally in a form which makes the determination of prospecting costs a problem for easy solution and this is particularly true for finding costs. Most companies determine an over all production cost per unit barrel which includes most of the various components of a finding cost but it is essentially the cost of finding oil to be produced in the future, and, in the normal per barrel production cost, it is combined with the cost of mining oil largely found in previous years and is arbitrary and inexact.

"It is of little value as a cost control to prospecting effort, although as a practical business matter the production cost-per-barrel figure is probably better than the more exact and correct cost would be, since it combines the actual mining costs with the current finding or reserve replacement cost.

". . .The actual cost of producing oil is the cost of finding, the cost of reducing to knowledgeable possession, of getting title to the oil in ground, plus the cost of mining the same oil. How can you decide whether to buy proved oil or prospect for it if you do not know what the cost of finding is likely to be?

"All in all, our necessity is for a considered and critical control, cost and statistical, of this normal and essential part of the oil industry.

"Again let me say the establishment of separate and distinct prospecting or exploratory departments should result in the focusing of attention on exploratory effort and the fixing of responsibility for the degree of success and should result in better and more effective work being done than by any other method.

"Fixing of responsibility for increasing their company's reserves and relief from all outside and extraneous duties, even the pleasant one of watching an unimportant well being brought in in a developing field, can only result in increasing the effectiveness of a company's prospecting efforts."

Retiring President Reed's paper on southern California as a structural type advanced the theory that comparable geological provinces with similar histories exist in this and other continents. The comparison was drawn by the use of obvious parallels in structural evolution between southern California and East Indies geology during Post Paleozpoc time.

Basil Zavoico, Russian engineer, outlined the developments in oil exploration in that country and said the industry there has progressed sufficiently to adopt American methods of wildcatting with steam and Diesel power, this promising accelerated exploration during coming years.

A controversial issue was touched on by L. W. Blau's paper on the interpretation of geophysical data, where the author took the position geophysical data must be worked out independently but that competent geophysicist geologists may combine geological and geophysical information in reporting all knowledge on areas under investigation. Other features discussed the oil and gas possibilities of various sections of this country, Canada and foreign countries and outlined the result of exploratory efforts during the past year.

Field trips to the Los Angeles Basin, San Joaquin Valley and the Coastal areas afforded visitors to the geologists convention the opportunity to study the Pacific Coast geology and operations.

## Fuqua Is Elected Geologists' Head

N. P. N. News Bureau

LOS ANGELES, March 20.—H. B. Fuqua, Fort Worth, Texas, was elected president of the American Association of Petroleum Geologists in convention at Los Angeles, March 17-19, to succeed Ralph D. Reed, Los Angeles.

Other members of the new executive committee include C. L. Moody, Shreveport, vice-president; Ira H. Cram, Tulsa, secretary-treasurer; and Dr. H. A. Ver Wiebe, Wichita, editor.

Two affiliated organizations, which held joint session with the geologists, also elected new officers. The division of paleontology and mineralogy elected S. G. Wissler, Union Oil Co., president; F. W. Rolshausen, Humble Oil and Refining Co., vice president; Henry V. Howe, department of geology, Louisiana State University, secretary-treasurer and reelected Ray C. Moore, University of Kansas, editor of the journal of paleontology.

The geophysicists elected Dr. J. C. Karcher, Dallas, president; Dr. F. M. Kennenstine, Houston, vice president; Miss M. E. Stiles, Houston, secretary-treasurer; and Dr. M. M. Slotnick, editor. Wallace E. Pratt and L. P. Garrett, were elected honorary members of this society.

TORONTO, March 22.—Production of crude oil during February by the International Petroleum Co., totalled 1,152,876 barrels in Peru and 1,617,441 barrels in Columbia, a government report issued here revealed.

## 'A Finish Fight,' A.A.A. Head Says

N. P. N. News Bureau

WASHINGTON, March 22.—"Frank expediency" is the only reason for continuance of the federal automotive excise taxes, including the federal tax on gasoline, lubricating oils, tires and tubes, and similar levies, according to Thomas P. Henry, president of the American Automobile Association, whose organization has opened what it terms a "finish fight" for their repeal.

An A.A.A. resolution, under which the campaign is being launched, declared that the federal motor levies, which have cost motorists an estimated $1,250,000,000 during the last five years, are burdensome and discriminating.

"It is high time that Congress redeem its pledge to the motorists of America," Henry declared. "When these taxes were imposed, we were solemnly assured that they were being levied to meet an emergency and would be only temporary in character.

"But, despite this pledge, these taxes have been continued and re-continued. Why? Not because they are just and equitable; not because the motorist gets any benefit in return. They are being continued simply because the automobile and the gasoline pump are easily-exploitable sources of revenue. Born of so-called emergency, the federal motor taxes are being continued from frank expediency."

Continuance of these taxes constitutes a "definite breach of faith" with American motorists, Henry added. "Already bearing more than one-half of the tax burden imposed by the states," he said, "motorists are being called upon to pay 72 cents out of every dollar collected by the federal government in manufacturers' excise taxes."

The total is now in excess of $300,000,000 yearly, or approximately $12 for every motor vehicle in the United States, he said.

### *Oil Man An Author*

TULSA, March 22.—"Interdependent taxes" is the title of a booklet written by Alexander B. Morris, Tulsa petroleum engineer, and another author. In the booklet are extensive tables of factors and computed examples to aid in the computation of tax figures. Special attention is given to problems where income taxes of one or more states are involved in the determination of federal income taxes and surtaxes.

# *Motor Fuel Specifications Set Up By New Law In North Carolina*

RALEIGH, March 23.—Beginning July 1, all gasoline sold in North Carolina will be graded according to specifications established by the newly-created state Oil Inspection Board and each filling station pump will have to display a sign stating the grade of motor fuel sold.

This is provided for in the omnibus oil inspection law enacted by the North Carolina general assembly, which is adjourning tonight after enacting the legislative program recommended by the Barker Gasoline Terminal Commission.

Establishment of a state-owned oil terminal—also recommended by the Barker commission—is provided for in another law passed.

An appropriation of $100,000 is made available for a state terminal when, in the discretion of the state council, headed by the governor, it should be built.

Nothing appears in the bill itself, but the Barker report suggested that the terminal be built "when and if" the state found itself unable to buy its gasoline needs at "fair" prices.

The terminal would be erected at Wilmington or some other North Carolina seaport, with the state bringing in its gasoline by tanker, it is understood.

**Commission Investigated**

Appointed by the governor, the Gasoline Terminal Commission, headed by Representative Oscar Barker of Durhan, N. C., made an investigation last year of oil marketing in this state and made its recommendations in January.

All but one of the commission's legislative proposals was enacted. After introducing a bill to license all filling stations on a basis of "public convenience", sponsors of the bill decided it would harm the station operators whom it was intended to protect. So they killed it in committee.

Another law enacted was one giving the right of eminent domain to pipelines carrying petroleum products. Already one pipeline company has been incorporated, presumably to acquire a right-of-way from Wilmington to some inland city in the state.

Besides grading and labeling of gasoline, the third Barker bill enacted into law provides for tightening up inspection laws, prohibits adulteration, requires keeping station records and other regulations. The port-of-entry provision was dropped.

Chairman Barker today expressed gratification that his commission was able to secure enactment of its legislative program. The governor of North Carolina has no veto power, so passage by the legislature makes these measures law.

## *Plans for A.P I. Meet*

TULSA, March 23.—John A. Ritter of the Sun Oil Co., Dallas, Tex., has been appointed chairman of the Committee on Arrangements for the spring meeting of the American Petroleum Institute's Division of Production to be held April 1 and 2 in the Baker Hotel at Dallas, Texas.

Members of the committee, all of Dallas, are: H. W. Bass, Bass Drilling Co.; F. I. Brinegar, Continental Supply Co.; Bruce Clardy, Heyser-Heard & Clardy, Inc.; Casey Cunningham, Standard Oil Co. of Texas; C. L. Gladden, Magnolia Petroleum Co.; N. G. Guiberson, Guiberson Corp., and G. A. Hays, Jr., Oil Well Supply Co.

Additional members are E. N. Koonsman, Pittsburgh-Des Moines Steel Co.; W. D. McBee, M. J. Delaney, Inc.; W. H. Meier, The Atlantic Refining Co.; Elmer Schmidt, Lone Star Gas Co.; Eric Schroeder, Kibele Manufacturing Co.; Melbert Schwarz, Seaboard Oil Co.; K. C. Sclater, The Petroleum Engineer; E. L. Smith, E. L. Smith Oil Co.; Paul P. Steed, Lion Oil & Refining Co.; and J. E. Warren, Carl B. King Drilling Co.

**Directs Movie**

LOS ANGELES, March 22.—When an oil company executive becomes a moving picture director, that is news.

Conger Reynolds, director of public relations for Standard Oil Co. of Indiana has been in Hollywood for a month to direct an institutional motion picture. Sound movies, in which love interest, drama, humor, and even tragedy are woven into a plot built around sales promotion work, are finding increased popularity in the eyes of the oil industry.

**DAILY AVERAGE PRODUCTION IMPORTANT DISTRICTS**
**American Petroleum Inst. Figures**

| | Week Ended Mar. 20 Barrels | Mar. 13 Barrels |
|---|---|---|
| Oklahoma City | 155,250 | 141,750 |
| Total Okla. | 657,450 | 615,900 |
| East Texas | 454,200 | 453,700 |
| Total Texas | 1,410,250 | 1,388,650 |
| Rodessa | 47,600 | 46,600 |
| Total La. | 246,700 | 240,900 |
| California | 591,500 | 592,800 |
| E. of Rockies | 2,856,650 | 2,780,050 |
| Total U. S. | 3,448,150 | 3,372,850 |
| Crude imports | 78,860 | 82,140 |
| To. new sup'ly | 3,527,010 | 3,454,990 |

## *Fuel Stocks Decline A.P.I. Reports Show*

NEW YORK, March 23.—A sharp end-of-the-season decline in gas and fuel stocks stood out prominently in the American Petroleum Institute's report of U. S. refinery operations issued today for the week ended March 20.

Stocks were down 1,677,000 barrels and stood on March 20 at 97,287,000 barrels, or less than 1,000,000 barrels above inventories on March 20, 1936, despite the considerably higher rate of refinery operations this year than last year.

California inventories alone were down 1,282,000 barrels and east coast stocks dropped 540,000 barrels. The Indiana-Illinois-Kentucky area was next with a 150,000-barrel decline. These declines were pared down somewhat, however, by a fairly substantial increase in the Texas-Gulf district and several of the less important refinery districts.

Crude runs at plants with 88.8 per cent of the country's refining capacity were increased 107,000 barrels on daily average. Texas-Gulf, California and Oklahoma-Kansas-Missouri runs were up 34,000, 28,000, and 18,000 barrels, respectively.

Preparations for spring demand were evidenced by the smallest increase in gasoline inventories in any one week since the first of the year. Inventories for the country as a whole increased only 387,000 barrels. East coast stocks rose 221,000 barrels; Oklahoma-Kansas-Missouri area stocks were down 110,000 barrels.

Standing at 81,623,000 barrels March 20, total gasoline stocks in the U. S., as estimated by the Institute, were 8,045,000 barrels above the actual total as reported by the Bureau of Mines for March 20, 1936.

# Crude Output At New Peak

N. P. N. News Bureau

NEW YORK, March 23. — Crude oil production in the United States reached another all-time high in the week ended March 20, a report of the American Petroleum Institute today revealed.

Averaging 3,448,150 barrels daily, output was up 75,300 barrels for the week and 152,050 barrels since the first of March.

Oklahoma and Texas continued to contribute the major portion of the increase in the U. S. total.

Oklahoma City daily average was up 13,500 barrels and the state's total jumped 41,550 barrels. Texas output averaged 21,600 barrels higher last week than in the second week of March. The coastal areas accounted for most of this increase with East Texas virtually at a standstill.

Texas output averaged 1,410,250 barrels daily, or 61,286 barrels above the April allowable production fixed by the Texas Railroad Commission and 112,350 barrels above the U. S. Bureau of Mines estimate of market demand for Texas crude in April.

OIL CITY, March 22.—Quaker State Oil Refining Corp. has been elected to membership in the Association of National Advertisers, Inc. H. S. Morris will represent the company in the A.N.A.

## *U. S. Oil Tax Revenues Up in Fiscal Year*

N. P. N. News Bureau

WASHINGTON, March 22.—Although collections from the four major federal taxes on the oil industry slumped somewhat last month, as compared to February, 1936, the total collections for the eight months of the fiscal year ending February, 1937, showed a distinct gain in all collections except on the tax for crude petroleum processing, according to figures of the U. S. Bureau of Internal Revenue.

Figures for collections in February, 1937, and 1936, as well as for the two eight-month periods ending those months follow:

| | Feb. 1937 | Feb. 1936 | Eight Months 1937 | Eight Months 1936 |
|---|---|---|---|---|
| Gasoline tax | $14,597,924.99 | $14,878,970.00 | $136,121,707.66 | $126,188,380.23 |
| Lube Oils | 2,016,705.44 | 2,206,672.34 | 21,165,992.89 | 17,919,203.08 |
| Pipeline Trp. | 828,161.17 | 734,442.37 | 7,230,698.74 | 6,434,342.54 |
| Crd. Pet. Processed, etc. | 22,607.69 | 66,646.12 | 569,899.89 | 885,940.78 |

# High Spots of Next Week's Meetings

## Coming Meetings

**General Expositions**

**The Greater Texas and Pan American Exposition, Dallas,** June 12 to Oct. 31.

**The Great Lakes Exposition,** Lake Front, Cleveland, Ohio, May 20 to Sept. 6.

**Oil Meetings**

**Oil Trades Association of New York,** New York, The Waldorf-Astoria, March 23.

**Michigan Petroleum Association,** Book Cadillac Hotel, Detroit, Mich., March 30, 31, and April 1.

**American Petroleum Institute,** Division of Production, Southwestern District, spring meeting, Baker Hotel, Dallas, Tex., April 1 and 2.

**Oil Men's Association of New England,** 13th annual convention, Copley Plaza Hotel, Boston, Mass., April 7 and 8.

**American Institute of Mining & Metallurgical Engineers,** Open Hearth Conference, Birmingham, Ala., April 7 to 9.

**Petroleum Industry Electrical Association,** Washington-Youree Hotel, Shreveport, La., April 8 to 10.

**American Chemical Society,** University of North Carolina, Chapel Hill, N. C., April 12 to 15.

**American Petroleum Institute,** Division of Production, Pacific Coast District, Biltmore Hotel, Los Angeles, Calif., April 13.

**National Petroleum Association,** 34th semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 15 and 16.

**Oil Equipment & Engineering Exposition,** Houston, Texas, April 19 to 24.

**Western Petroleum Refiners Association,** Silver Anniversary Convention, Arlington Hotel, Hot Springs, Ark., April 26, 27 and 28.

**Society of Automotive Engineers,** summer meetings, Greenbrier Hotel, White Sulphur Springs, W. Va., May 4 to 9.

**American Petroleum Institute,** Division of Production, Eastern District, Deshler-Wallick Hotel, Columbus, Ohio, May 6 and 7.

**Fuel Oil Distributors Association of New Jersey,** Berkeley-Carteret Hotel, Asbury Park, N. J., May 6 and 7.

**American Gas Association,** Natural Gas Dept., Kansas City, Mo., May 10 to 15.

**Natural Gasoline Association of America,** Hotel Tulsa, Tulsa, Okla., May 19, 20 and 21.

**National Association of Purchasing Agents** (Oil Company Buyers Group), annual convention, William Penn Hotel, Pittsburgh, Pa., May 23 to 27.

**American Petroleum Institute,** Mid-Year Meeting, Broadmoor Hotel, Colorado Springs, Colo., June 1, 2, 3.

**Oil Field, Gas Well-Refinery Worker of America,** Kansas City, Mo., June 7.

**Pennsylvania Grade Crude Oil Association,** annual meeting, on Great Lakes S. S. "Seeandbee," sailing from Buffalo, N. Y., June 10, 11 and 12.

**Second World Petroleum Congress,** during International Exposition, Paris, France, July 14 to 18.

**National Oil Scouts Association,** Dallas, Tex., June 25 and 26.

**American Society for Testing Materials,** 40th annual meeting, and 4th exhibit of testing apparatus, The Waldorf-Astoria, New York City, June 28 to July 2.

**National Association of Petroleum Retailers,** fifth national convention, Rochester, N. Y., Sept. 27 to Oct. 1.

**American Gas Association,** Cleveland, Ohio, week of Sept. 27.

**Oil-World Exposition, Inc.,** Houston, Texas, Oct. 11 to 16.

**American Petroleum Institute,** 18th annual meeting, Stevens Hotel, Chicago, Ill., Nov. 9 to 12.

**Exposition of Chemical Industries,** Grand Central Palace, New York, N. Y., Dec. 6 to 11.

***Michigan Petroleum Assn., Book Cadillac Hotel, Detroit, March 30, 31 and April 1.***

*"Gasoline Weight and Temperature Adjustment"*, by George C. Newton, Lake States Oil Co., Iron Mountain, Mich.

**March 31, Retailers Day:**

*"Merchandising at the Pump Island"*, by E. Gallmeyer, sales manager, Wayne Pump Co., Ft. Wayne, Ind.

*"The Interest of the Marketers in Trailer Travel"*, by Harold Aaron, Aaron, Sill & Caron, Inc., Detroit.

*"Developing Plus-Sales and Profit on the Drive"*, by O. F. Brickett, Sinclair Refining Co., Detroit.

*"Possible Profits to the Jobbers and Retailers Through Marketing Premium Gasolines"*, by C. E. Smith, Ethyl Gasoline Corp., Detroit.

**April 1:**

*"Gasoline and Modern High Compression Tractor Engine"*, by R. B. Hedden, Ethyl Gasoline Corp., Detroit.

*"Marketing Conditions in Ohio"*, by C. H. Kaiser, vice-president, Star Oil Co., Port Huron, Mich.

***American Petroleum Institute, Southwestern District, Production Division, Hotel Baker, Dallas, Tex., April 1 and 2.***

**April 1:**

*"Trends and Potentialities of Oil Development in Southwestern United States"*, by Wallace E. Pratt, Humble Oil & Refining Co., Houston.

*"Taxation—An Over-Riding Royalty"*, by Jake Hamon, Cox & Hamon, Ardmore, Okla.

**April 2:**

*"Foundations and Substructures in the Gulf Coast"*, by W. F. Herbert, The Texas Co., Houston, and H. E. Anderson, Texas Creosoting Co., Houston.

*"Modern Developments and Applications in Steam Power"*, by George B. Kitchell, Humble Oil & Refining Co., Houston.

*"New Developments in Well Completions in Texas Gulf Coast and Southern Louisiana"*, by I. W. Alcorn, The Pure Oil Co., Houston, and J. U. Teague, Humble Oil & Refining Co., Houston.

*"Capacity Pumping of Oil Wells"*, by S. B. Sargent, Sargent Engineering Corp., Huntington Park, Cal.

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# Higher Octane Fuels To Revolutionize Aviation

## *Bigger Pay Loads And New Speeds Are Forecast*

By ARCH L. FOSTER

N. P. N. Technical Editor

With the development of new super gasolines of high octane rating, commercial planes will be able to carry larger pay-loads, reach higher speeds and increase the cruising distance when engines are designed to use these fuels, D. P. Barnard of the Standard Oil Co. of Indiana said. Barnard presented a far-reaching study of the higher octane number fuels in use in aviation to the National Aeronautic Meeting of the Society of Automotive Engineers in Washington March 11 and 12.

The earning power of a gallon of gasoline in commercial aviation may be increased from two to five cents for each octane number of improvement, if the fuel is used in properly designed engines, Barnard stated.

The aviation industry is going forward with improvements in fuels, in lubrication systems and cooling methods for crankcase lubricants. with changes in engine design, such as flexible valve seats which prevent valve leakage and power loss, and with water-cooling of engine cylinders. Fuel improvement appears to be the most important of these advances. "It is evident that the earning power of octane number improvements," said Dr. Barnard, "is so great that, within practical limits, cost cannot influence the trend toward higher octane numbers to any appreciable extent."

The real value of increased octane number fuels, when engines and planes are designed to take full advantage of this increase, is not so much in the higher speeds obtained, but in the plane's ability to cruise over longer distances, he continued, and to get off the ground with a greater pay-load than is at present the case.

The airplane is limited at present to about 13 pounds load per horsepower, the speaker stated. The greater the take-off power, the greater will be this load factor, and consequently greater pay loads can be carried. Also, for a given flight distance, the more efficient the fuel, that is, the higher its octane number, the smaller the fuel load to be carried. It is obvious that the smaller the amount of fuel necessary for any given distance, the greater the pay-load can be.

### Effect on Pay-Load

Planes are dependent on the amount of power available to get the loaded plane into the air safely, within the physical limitations of the flying fields. Consequently the greater the maximum power which can be used, when engines are designed for, say, 100-octane number fuels, the greater the loads that can be carried by air.

In the course of this study, carried out in connection with the Army Air Service, and fuel, plane and engine manufacturers, it was found that little difference exists between the method of obtaining greater efficiency from the higher octane rating of fuels by means of supercharging, and that by higher compression ratios. For moderate octane number increases—above those currently used — the advantage appears to be with raising compression ratios. For very high compression ratios, that is, requiring fuels of greatly increased octane ratings, supercharging shows better returns than does increasing the compression ratio high enough to take advantage of these very high octane numbers.

For overland transportation, an increased value per gallon of fuel per octane number improvement is 2.25 cents per gallon, Barnard figured. Thus, a gallon of 100 octane number fuel can earn 29.3 cents more than can a gallon of 87 octane number fuel. Again, the author repeated, this advantage cannot be gained by using this fuel in existing planes, but by designing engines and planes to take full advantage of the increased anti-knock rating of the fuel. Higher maintenance may result from these more powerful engines, but ten percent of the increased returns is considered ample by Barnard to cover this increased maintenance cost.

### Show Aviation Trend

These calculations are intended to show the trend of aviation developments during the next few years, the author stated, rather than as strictly exact computation of specific earning power. These values are estimated for commercial aviation, he said, and, while no estimates have been made from a military standpoint, he declared that the additional advantage to be gained from higher octane numbers which can be taken advantage of in plane design, will result in even greater advantages for military planes than for civil aviation.

Significant also are the deductions regarding the effect of introducing non-petroleum fuels into the picture. Petroleum hydrocarbons provide the highest energy content on either a volume or a weight basis, of any liquid fuel, Barnard pointed out. Aviation gasolines average about 20,500 Btu. per pound, or about 123,000 Btu. per U. S. gallon. Fuels containing oxygen, such as alcohols, reduce strongly the earning power of the fuel, he said. A decrease of one per cent in heat value resulting in a loss of earning power equivalent to a reduction of two octane numbers.

This means about two octane numbers earning power loss for each three per cent of anhydrous alcohol blended in the fuel, he stated. So calculating, a ten per cent blend of ethyl alcohol in petroleum aviation motor fuel would approximate a reduction in the earning power equivalent of 100 octane number petroleum fuel to 93 octane number. Barnard emphasizes the fact that improvements due to better cooling methods, and other design matters should not be credited to fuel's account, and that, in arriving at the estimates given every effort was made to be conservative. Stopping his estimates at 100 octane number, Barnard calls attention to the addition of three cc. of ethyl fluid to iso-octane, by DuBois and Croonstedt, which showed a possible increase of at least 30 octane numbers. It is more than interesting to conjecture what the practical results might be from using a fuel of 125-130 octane numbers in engines specially designed for it.

### Water Cooling

Liquid cooling a radial engine and using four to six rows of nine cylinders each will enable the engineer to build engines delivering 8000 horsepower, H. L. Brownback believed. The propeller appears to be the limiting factor in engine size, rather than the engine itself.

Engines ranging from 30 hp. to 1600 hp. are receiving the most attention in France, in the vanguard of aviation designing. Very high engine speeds are the trend in light engines; water cooling is receiving more attention, although in the highest powers the radial air-cooled type controls.

He also stated that the Germans expect to have diesel engines of 2000 hp. on the airlines during the summer of 1937. In the 300-500 hp. class of French engines, weight-power ratios have been reduced already to

## *Gasoline Consumption in Canada Increased 7.7 Per Cent in 1936*

OTTAWA, Can., March 18.—Gasoline consumption in the nine provinces of Canada during 1936 totaled 617,842,000 Imperial gallons, as compared with 573,652,000 gallons in 1935, an increase of 44,190,000 gallons or 7.70 per cent, according to the Dominion Bureau of Statistics, whose records are compiled from tax reports of wholesalers and dealers.

All provinces reflected increases in gasoline demand, ranging from 1.29 per cent in Saskatchewan to 27.28 per cent in Alberta. In Ontario, consumption gained 3.72 per cent and in Quebec, 7.49 per cent, these being the two largest consuming provinces.

During December, 1936, consumption increased 5,634,000 gallons, or 15.16 per cent, over demand in December a year ago. One province, Quebec, showed a decrease but increases ranged as high as 68.72 per cent, this being in Alberta. Saskatchewan gained 54.86 per cent and three provinces were up more than 25 per cent.

Detailed figures are given in the accompanying table.

**Canadian Gasoline Consumption 1935 and 1936**

*(In Thousands of *Imperial Gallons)*

| | Dec. 1936 | Dec. 1935 | % Change 1936 over 1935 | Total 1936 | Total 1935 | % Change 1936 over 1935 |
|---|---|---|---|---|---|---|
| Prince Ed. Island | 197 | 176 | +11.93 | 3,089 | 2,832 | + 9.07 |
| Nova Scotia | 1,818 | 1,527 | +19.06 | 25,248 | 22,274 | +13.35 |
| New Brunswick | 972 | 769 | +26.40 | 17,477 | 15,185 | +15.09 |
| Quebec | 6,319 | 6,677 | — 5.36 | 109,835 | 102,178 | + 7.49 |
| Ontario | 20,430 | 19,003 | + 7.51 | 282,828 | 272,681 | + 3.72 |
| Manitoba | 2,254 | 1,775 | +26.99 | 30,582 | 28,483 | + 7.37 |
| Saskatchewan | 2,326 | 1,502 | +54.86 | 39,672 | 39,166 | + 1.29 |
| Alberta | 4,660 | 2,762 | +68.72 | 60,388 | 47,443 | +27.28 |
| British Columbia | 3,816 | 2,967 | +28.61 | 48,723 | 43,410 | +12.24 |
| Total | 42,792 | 37,158 | +15.16 | 617,842 | 573,652 | + 7.70 |

*Imperial Gallon equals 1.2 U. S. Gallons.

almost one pound per horsepower, he said.

The use of flexible valve seat inserts will enable the valve to seat fully under the most severe operating conditions, rather than to distort and cause burned valves and loss of compression and power, according to the report of research carried out on this problem by S. D. Heron, of Ethyl Gasoline Corp., and A. L. Beall, of Wright Aeronautical Corp. The valve seat design illustrated by the authors is austenitic nickel-chromium valve steel, with both valve and seat insert faced with Stellite. The insert is designed with a circumferential "U" cross-section, leaving a sort of trench around the seat which is supported on a relatively thin element of metal, which is designed to permit full seating under any normal distortional conditions. Thirty hours of testing, including 15 hours of detonation and overheating showed no significant leakage, evidenced by a continuous polish on both faces, these men report.

## *Seeks Aid of Industry For Proposed School*

LOUISVILLE, March 22.—Everett J. Evans of Paintsville, Ky., who has recently purchased property of the former Methodist Teachers College there for purposes of establishing a technical preparatory school for the oil and gas industries, said he was placing his plans before the American Petroleum Institute, the Kentucky Oil & Gas Association and other groups to secure the cooperation of the industry.

A. B. Chamberlin of Paintsville, consultant for Evans, said the purpose of the proposed school was to give students two years training in geology, drilling, pipeline construction, leasing, mapping, refinery operations and chemistry. The proposed school would adopt the "co-op" plan of alternate periods of study and work in the industry, Chamberlin said.

"The main objective," Chamberlin continued, "is to train boys for the practical end of the business. In geology instruction would be given in methods of defining different producing sands and making an intelligent log in drilling wells. Instruction in practical pipeline welding and construction, the proper forms of leasing, mapping of operations and a working knowledge of refinery operations and chemistry would be furnished."

Evans is a director of the Independent Petroleum Association of America.

# Oil Burners' Biggest Show Brings In 10,000 Visitors

PHILADELPHIA, March 22.—The 14th National Oil Burner and Air Conditioning Exposition held last week, March 15 to 19 inclusive, at Commercial Museum, Convention Hall, is the best evidence of the fact that the oil burner and air conditioning industry has outgrown its infancy.

Emerging from the years of depression, during which oil burner and air conditioning unit manufacturers made improvements in equipment to a point where now these units are even streamlined, this industry is entering upon the threshold of its greatest year.

G. Harvey Porter, managing director of the Oil Burner Institute which sponsors the exposition, said that sales in this industry have climbed every year since the depression, except in 1929. Last year sales were 40 per cent higher than in 1935. With the present improvement in general business conditions, all indications are that the rate of increase will be maintained this year.

Several representatives of NATIONAL PETROLEUM NEWS attending this burner show found, through contacts with visitors, a continuation of the definite trend toward centralized merchandising set-ups.

There was a time when the fuel for oil heating was sold by none other than oil men. The equipment likewise was sold by dealers who specialized only in the merchandising of the units.

In recent years, however, fuel oil jobbers have started to take on the sale of burners, while burner dealers have entered the fuel oil jobbing business.

Several dealers visiting the burner show who formerly were coal dealers told of their recent invasion into fuel oil jobbing because of the demand of their customers for oil heat. Some of them also seemed favorably inclined to taking on the sale of oil heating and air conditioning equipment in the near future.

### Automatic Heat

Another reaction to this trend of dealer set-ups equipped to sell automatic heat from "a to z" came from dealers who now handle only burner equipment. These dealers intimated their intentions of taking on the sale of fuel in the near future, in addition to selling the equipment.

The general reaction to the entire week's show is that it is the best convention of its kind ever held. The exhibitors, close to 80 in number, expressed their satisfaction with attendance at the exhibition, which, for the 5 days, was in excess of 10,000, including the dealers and the general public.

According to many of the exhibitors, the visitors were described as already "sold" on oil burners and air conditioning. Their visit to the show to acquaint themselves with various types available might be typified therefore by the remark of an elderly looking housewife whose major concern at the exposition seemed to be, "Say, Mister, what type of burner do you think is best?"

As in the past, the exhibits were open for inspection throughout the afternoon and evening while executive committee meetings, board of directors meetings, and various lectures were being held simultaneously elsewhere.

On March 16, Dr. R. T. Goodwin, manager of the fuel oil sales department, Shell Union Oil Corp., spoke on "Fuel Oil—A Major Petroleum Product." Mr. Goodwin pointed out that, until a few years ago, fuel oil was considered a by-product of the industry, but today it is a major product because of the demand needed to supply oil burners.

### Scores Oil Tax

On March 17, in a paper by Baird H. Markham, director of the American Petroleum Industries Committee of the American Petroleum Institute, and read in his absence, Mr. Markham said that there was no logical reason for taxing fuel oil unless and until every other commodity is taxed. He argued that industrial legislation should be governed "by need and by reason, rather than by convenience and by prejudice."

On March 17 also was a private tour of the exhibits by oil company executives who afterwards joined the directors of the Oil Burner Institute at luncheon.

Henry Brodie, of Bulkley & Scott Utilities, Inc., in the absence of Mr. "Jack" Scott, delivered a talk on "Oil Burner Merchandising." His remarks centered around the building and maintaining of an efficient sales organization.

March 18 was set aside as "Dealer Day" at the convention and close to 5000 manufacturers of oil burning equipment, dealers, and oil distributors were in attendance.

At the election of officers, Charles N. Lockwood, Nu-Way Corp., Rock Island, Ill., was elected president of the Oil Burner Institute for the coming year.

The five new vice-presidents are: Frank H. Dewey, Gar Wood Industries Inc., Detroit; M. A. Powers, Timken Silent Automatic Division, Detroit; Earl Marr, Westinghouse Electric Supply Co., New York; E. P. Bailey, National Airoil Burner Company, Philadelphia; J. J. Donovan, General Electric, New York.

The executive committee consists of Messrs. Lockwood, Dewey, Powers, Bailey, and Donovan and the following three; W. F. Brannan, retiring president, Anchor Post Fence Co., Baltimore; J. H. O'Brien, Petroleum Heat & Power Co., Stamford, Conn.; F. H. VanBlarcom, Lynn Products Co., Lynn, Mass.

A. E. Knapp, Nash-Kelvinator Corp., Detroit and J. A. Lattner, Century Engineering Co., Cedar Rapids, Ia., are the new additions to the Board of Directors.

## *Men Named to Run Oil Show at Houston*

N. P. N. News Bureau

TULSA, March 22.—Committees to arrange the Houston (Tex.) oil show Oct. 11 to 16 were appointed at a recent meeting of the board of directors of the Oil-World Exposition, Inc.

The chairman of the refinery sub-committee will be W. H. Curtin, president of W. H. Curtin & Co. Other sub-committee chairmen named were G. B. Corless of the Humble Oil & Refining Co., directional drilling; Joseph Russell of the Gulf Production Co., drilling; B. M. Nowery of the United Gas Public Service Co., production, and Sutton, associations and conventions.

Additional chairmen announced were J. J. Delahide of E. D. Bullard Co., safety and first aid; Lester B. Clark, attorney, new patents and inventions; Hill, attendance; Carothers, entertainment, and Thomas E. Ward of the Oilfield Equipment Co., oil equipment export.

### Weights and Measures

WASHINGTON—The printed report of the National Conference on Weights and Measures, held last June at the Bureau of Standards, is now available. The report, listed as U. S. Department of Commerce Miscellaneous Publication No. 157, may be obtained from the office of the Superintendent of Documents in Washington at a cost of 20 cents in cash.

# Texas Fields Maintain Output Under Proration

TULSA, March 22.—Over a year's period, principal prorated fields of Texas have maintained their production remarkably well and many of them have shown increases in daily output under allowables set by the Railroad Commission of Texas, a report of the commission revealed.

The accompanying table shows comparative figures on total monthly production for December, 1935, and January, 1937. The table was taken from the monthly statistical report of the railroad commission, compiled from reports made by producers.

The tabulation is grouped by commission districts. District 1 includes the area termed the south central part. District 2 borders on the Gulf Coast but is mainly inland between Houston and Corpus Christi. District 3 includes the Houston area and takes in the principal fields along the coast, as well as the major Conroe field. District 4 is the territory approximately south of a line from Corpus Christi west to the state's border. District 5 takes in the principal fields of the Balcones fault zone, such as Mexia and Powell. Number 6 includes the East Texas field and the newer Rodessa field. Number 7B is the general Ranger territory and 7C is the area commonly known as the West Central district. District 8 is West Texas; number 9 is the Wichita Falls shallow sand area and number 10 is the Panhandle.

Total production of the state, according to the commission's report, for January was 1,260,089 barrels daily, or 39,062,768 barrels total for the month. Total allowable production was 40,173,627 barrels. The state was underproduced 2.77 per cent.

Fields shown in this table were those that produced 200,000 barrels or more per month either in January, 1937, or December, 1935. The acreage figures are not exact but represent estimated producing acres or proved acreage in each field.

| Field | Acres Jan. 1937 | Acres Dec. 1935 | Wells Jan. 1937 | Wells Dec. 1935 | Reported Production Jan. 1937 | Reported Production Dec. 1935 |
|---|---|---|---|---|---|---|
| **District No. 1** | | | | | | |
| Darst Creek | 3,293 | 3,370 | 253 | 225 | 226,479 | 270,453 |
| Luling-Branyon | 6,102 | 5,888 | 538 | 512 | 200,304 | 179,008 |
| **District No. 2** | | | | | | |
| Greta | 10,275 | 12,472 | 196 | 207 | 418,551 | 492,357 |
| O'Connor Tom | 7,614 | 9,952 | 96 | 5 | 212,027 | 8,413 |
| Placedo | 4,033 | 923 | 103 | 20 | 213,268 | 52,773 |
| **District No. 3** | | | | | | |
| Anahuac | 11,239 | 5,089 | 149 | 35 | 286,444 | 99,247 |
| Barbers Hill | 1,674 | 1,756 | 174 | 174 | 410,869 | 550,282 |
| Conroe | 26,295 | 26,094 | 940 | 890 | 1,257,394 | 1,270,486 |
| Hastings | 3,836 | 1,682 | 131 | 48 | 276,252 | 134,458 |
| High Island | 967 | 921 | 55 | 52 | 96,845 | 216,299 |
| Manvel | 2,840 | 2,723 | 134 | 102 | 320,887 | 235,444 |
| South Houston | 732 | 259 | 75 | 9 | 190,829 | 37,520 |
| Thompson | 8,822 | 8,595 | 204 | 194 | 249,509 | 328,795 |
| Tomball | 12,075 | 10,179 | 256 | 190 | 231,622 | 198,360 |
| Columbia | 2,172 | 2,152 | 33 | 36 | 62,343 | 67,978 |
| **District No. 4** | | | | | | |
| Corpus Christi | 2,256 | ..... | 214 | 4 | 290,280 | 8,525 |
| Gov't. Wells, North | 67,653 | 67,967 | 468 | 453 | 291,731 | 350,713 |
| Loma Novis | 25,817 | 21,351 | 665 | 210 | 476,430 | 215,286 |
| Lopez | 6,717 | 2,273 | 290 | 27 | 209,404 | 28,137 |
| Plymouth | 11,834 | 9,954 | 116 | 44 | 358,608 | 188,587 |
| Saxet, New Shallow | 3,807 | ..... | 113 | ..... | 214,256 | ..... |
| Saxet, Frio | 2,779 | ..... | 133 | ..... | 399,894 | ..... |
| Seven Sisters | 6,485 | 1,333 | 361 | 44 | 259.820 | 47,975 |
| **District No. 5** | | | | | | |
| Van | 6,624 | 6,434 | 549 | 501 | 1,054,888 | 1,140,928 |
| **District No. 6** | | | | | | |
| Cayuga | 12,327 | 7,960 | 145 | 87 | 232,177 | 151,011 |
| East Texas | 153,369 | 141,058 | 21,947 | 19,313 | 13,762,194 | 13,435,853 |
| Rodessa | 7,155 | ..... | 184 | 1 | 1,197,344 | 12,247 |
| Talco | 4,366 | ..... | 198 | ..... | 465,184 | ..... |
| **District No. 7B** | | | | | | |
| Shackleford County | 41,859 | 39,591 | 1,642 | 1,584 | 224,150 | 186,331 |
| **District No. 7C** | | | | | | |
| Big Lake | 10,880 | 10,880 | 214 | 218 | 237,723 | 252,638 |
| McCamey | 38,228 | 33,842 | 471 | 318 | 312,258 | 203,029 |
| **District No. 8** | | | | | | |
| Church Fields | 20,544 | 20,514 | 309 | 298 | 218,626 | 184,423 |
| Cowden, north | 12,390 | 12,416 | 116 | 58 | 226,313 | 127,045 |
| Hendrick | 13,830 | 15,350 | 390 | 406 | 374,392 | 452,664 |
| Howard-Glasscock | 27,702 | 25,950 | 722 | 667 | 516,634 | 606,886 |
| Iatan East Howard | 12,710 | 12,560 | 188 | 135 | 215,795 | 134,828 |
| Sayre | 13,881 | 9,760 | 215 | 54 | 212,021 | 93,720 |
| Ward, north | 54,100 | 53,700 | 163 | 118 | 286,387 | 232,417 |
| Ward, south | 15,183 | 14,763 | 531 | 306 | 430.958 | 324.100 |
| Yates | 33,026 | 32,227 | 537 | 493 | 874,907 | 1,210,880 |
| **District No. 9** | | | | | | |
| Archer County | 60,466 | 58,599 | 3,877 | 3,872 | 402,987 | 468,088 |
| Cooke County | 9,854 | 7,474 | 609 | 367 | 220,475 | 74,594 |
| Wichita County | 63,296 | 61,410 | 6,168 | 6,250 | 451,897 | 451.391 |
| Wilbarger County | 23,361 | 21,726 | 1,565 | 1,449 | 275,607 | 252.397 |
| Young County, north | 22,270 | 22,097 | 1,680 | 1,516 | 208,277 | 192,506 |
| **District No. 10** | | | | | | |
| Panhandle Field | 191,418 | 188,029 | 2,988 | 2,588 | 2,132,437 | 1,913,090 |

# 'G' Men Locate Broker in Samoa

NEW YORK, March 22.—J. H. Campbell, alleged ringleader in the recent gasoline tax frauds in Tennessee, has been found by "G" men in the Samoan islands, near New Zealand. Although no formal announcement has been made, it is believed steps are being taken to extradite the fugitive.

Campbell, a Texas oil broker, escaped by airplane and ship after jumping his $10,000 bail several months ago.

Another Texas oil broker, A. C. Taylor, implicated in the conspiracy is still at large. Taylor fought extradition from Texas and disappeared shortly after a Texas court ruled he must surrender to Tennessee authorities.

Gasoline was shipped, it is alleged, by Taylor and Campbell from Texas, billed as kerosine. Evasion was accomplished with connivance of Tennessee tax department employes.

A total of 22 men were indicted during the investigation and two, so far, have been convicted and sentenced to prison terms of one to five years and fined $1000 each. A bill now pending in Tennessee legislature would provide an appropriation of $50,000 to complete the case.

# Texas Allowable Is Reduced By 50,000 Barrels

AUSTIN, Texas, March 22.—Texas crude production allowable for April was set at 1,348,964 barrels daily, 49,550 barrels below the March 1 basic allowable, by the Railroad Commission of Texas.

While considerably below the March allowable, the April figure is 51,064 barrels above the Bureau of Mines market demand estimate for Texas crude. On the other hand it is 287,055 barrels less than the demand calculated on nominations filed by purchasers who had sought a total of 1,636,019 barrels daily.

The per-well allowable in East Texas was not changed by the Texas Railroad Commission, which took testimony March 19 on which to base its crude production control for April. The meeting was devoid of controversy.

Chairman C. V. Terrell and Commissioner Ernest O. Thompson cited sharp increases in gasoline and crude stocks as the reason for the reduction.

Flush pools, principally in the Gulf Coast and Southwest Texas districts, bore the brunt of the reduction. One pool, Yates in West Texas, received the largest single cut. Its daily allowable was reduced 4387 barrels to 30,613.

Allowable production for all fields in the state March 19 was 1,430,969 barrels daily. The month opened with an allowable of 1,398,514 barrels, so the gain in 18 days was 32,455 barrels. This increase came from the completion of 532 oil wells in the 18 days, each well being assigned its quota and the total being thereby swelled.

The Bureau of Mines forecast of daily crude oil from Texas to supply consumer demand for April was put into the record. It was 1,297,900 barrels daily.

The East Texas field, which a few years ago required two and three days time at a proration hearing, was disposed of in a short while at this meeting. V. E. Cottingham, railroad commission engineer, reported that the average bottom hole pressure, as ascertained by commission tests, was 1170.47 pounds per square inch on March 12. This was a drop of .35 pound from Feb. 12. During that period the allowable production for the field was 12,681,532 barrels, or 452,911 daily, and the pressure drop per million barrels allowable was 0.026 pound, which all agree is conservative.

Allowables by districts, with comparative figures for March are, in barrels, as follows:

| Field | March 1 | April 1 |
|---|---|---|
| East Tex. | 453,000 | 453,500 |
| Panhandle | 75,610 | 72,150 |
| Moore County | 1,500 | 1,350 |
| Osborne Area | 725 | 700 |
| North Texas | 65,750 | 64,922 |
| Foard County | 650 | 565 |
| W. Cen. Tex. | 64,428 | 62,891 |
| West Tex. | 188,463 | 178,947 |
| E. Cen. Tex. | 74,479 | 70,202 |
| Rodessa | 39,400 | 38,545 |
| South W. Tex. | 227,486 | 209,430 |
| Gulf Coast | 207,023 | 193,853 |

**Will Flow 9 Years**

Answering a query, Cottingham said the pressure loss in one year's time had been 32 pounds. Commissioner Thompson, ever eager to show off the East Texas field as a prime example of conservation work, led Cottingham into a conclusion that, considering only the figures on pressure decline at that moment under discussion, the flowing life of the field would be about nine years more. The 900-pound mark was used as the breaking point between flowing and pumping; however, some wells will flow at as low as 800

pounds, Cottingham said. Also, he said, water encroachment would have to be considered, hence the figures under consideration could not be applied directly. However, it all demonstrated the value of effective utilization of reservoir energy, which was what Col. Thompson set out to do.

John C. Shroeder, Danciger Oil & Refineries, Inc., complimented the commission on its work in East Texas, then asked that no reduction below the 20-barrel marginal well allowable be made. He spoke for the recently organized East Texas Independent Petroleum Association, brought into being when State Senator Clint Small introduced a bill which would permit the commission to cut allowables below present statutory minima. Mr. Shroeder said the field is in splendid shape and that the only difficulty is in supplying current demand.

His company, he asserted, has firm offers for much more crude than it can supply and premium paying is general. From a labor standpoint, he said, the East Texas field is the best in the country and by that he said he meant that conservation has stabilized conditions so that workers have been able to settle there, build homes and become permanent residents of the community. He contrasted this with conditions which have obtained in many fields of the past. Workers came in and moved on in a short while when the decline in the field reduced the necessity for keeping many men at work.

**Operators Satisfied**

In other districts operators apparently are fairly well satisfied, for little testimony was offered. Ed A. Landreth thought the Goldsmith pool, Ector county, should have an increase of 2000 barrels daily, as it is growing rapidly and its present allowable is not sufficient, he said. George Goad, Tidewater Oil, thought Conroe should not be reduced, if reductions are made, and said the company he represented stood ready to take any excess of production that operators in the field might have. Tom Deberry, speaking for some operators in the Talco field, wanted allowables no less than the present and said there was demand for a third more than now is being taken. This statement didn't agree with the view of Hines Baker, Humble Oil & Refining Co., who said oil had gone to storage at Talco at the rate of 3930 barrels daily during the week ended March 8.

Long a point of discussion and controversy among operators and regulatory bodies is this question; Shall production allowables be based on the Bureau of Mines forecasts?

Texas broke away a long while ago and has consistently been above the bureau's estimate of demand. Col. Thompson has frequently asserted that the bureau was not geared up to current conditions, that its estimates were far under the true demand. On Feb. 20 at the state wide hearing in Austin, Secretary Ickes was a guest and the colonel mentioned the matter in Ickes' presence. The Texas commissioner said that apparently the folks in Washington were not fully aware of the "Democratic prosperity" reflected in the demand for Texas oil.

At the hearing here this week the colonel had a letter to read. It seems that Ickes asked the bureau to tell him "how we're doin'." He sent the colonel the bureau's explanation of its figures, signed by Director John W. Finch, who agreed that the bureau figures had been lower than actual demand and explained why. The letter from Finch to Secretary Ickes read as follows:

"In reply to your memorandum of Feb. 25 in which you request an explanation of the discrepancy between the Bureau's figures on the demand and supply of crude oil, as called to your attention by Colonel Thompson.

"This inquiry relates to the monthly 'forecast of demand for motor fuel and crude oil' in which recommendatory levels of required crude oil production by States are indicated.

"The Bureau of Mines recognizes that its estimates of motor-fuel demand for the last quarter of 1936 were below actual demand and has taken steps, which we believe will be adequate, to correct this situation. Recent increases in the level of crude stocks indicate that current production is now exceeding consumption.

"The actual domestic and export demand for motor fuel in 1936, according to preliminary figures, was 509.4 million barrels, whereas the forecasts of the Bureau of Mines showed a total for the year of 501.0 million barrels, an underestimate of 8.3 million barrels, or less than two per cent. Approximately two thirds of this underestimate is attributable to the forecasts for the last quarter of 1936.

"This underestimate was due primarily to abnormal weather conditions. The unusually cold weather in the last quarter of 1935 reduced consumption and obscured the normal trend of demand for that period. The unusually mild weather in the last quarter of 1936 increased consumption beyond not only our own estimates but those made by the industry. I may say that the Bureau of Mines staff checks all available estimates of demand made by industry organizations and individuals and that our estimates have been well above the average.

**Lag of Two Months**

"With an unavoidable lag of some two months in the final figures available, the monthly forecast really represents a three-months projection of existing data. In a rapidly rising market any reasonably conservative forecast would represent an underestimate, while, on a falling market, an overestimate would result.

"The degree to which steps taken during the last three months to bring our estimate of demand more into line and to liberalise our stock programs may be illustrated by a brief analysis of the current situation.

"Crude oil production for the first three weeks of February averaged about 3,313,000 barrels daily. The Bureau's forecast of required production for that period was 3,068,600 barrels, or 244,400 barrels less. This apparent deficiency in supply may be explained as follows: First, the Bureau recommended no change in crude oil stocks. Actually, crude oil stocks increased at the rate of at least 94,000 barrels daily in the three weeks period. Furthermore, the Bureau estimated a normal seasonal increase in gasoline stocks of 209,600 barrels daily for this period. Because of the excessively high rate of refinery operations, the actual increase in such stocks was 288,900 barrels daily. In terms of crude, this difference of 79,300 barrels is equivalent to about 184,000 barrels daily. The sum of these two increases, which are equivalent to 278,000 barrels of crude oil daily, more than explains the discrepancy between the Bureau's estimate of demand and actual supply."

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AZUSA, CAL., March 20. — E. A. Lamm, special agent for the Standard Oil Co. of California for many years, has retired.

# *Lack of Safety Rules for Truckers Is No Barrier for ICC Permit*

N. P. N. News Bureau

WASHINGTON, March 22.— "There are certain inherent advantages in the transportation of petroleum products by motor vehicle," the Interstate Commerce Commission said in granting a certificate of public convenience and necessity to a petroleum trucker in Missouri.

The certificate was granted over the protest of numerous rail carriers, all of whom maintained that the points sought to be served by the trucker, E. A. Bowles, Maryville, Mo., are now adequately served by rail carriers.

The application was for common carrier transportation of petroleum products between Kansas refinery points and points in Iowa and Missouri.

**Advantages Cited**

Among the "inherent advantages" in petroleum transportation by truck, according to the commission's report, are "the reduction in amount of gasoline and other petroleum products which jobbers must keep on hand in storage tanks" and "the elimination of the expense of trucking rail shipments of such products at destinations from tank cars to those jobbers who do not have storage facilities adjacent to the rail carriers' tracks."

That a particular point has adequate rail service is not a sufficient reason for denial of a certificate, the report continued, "shippers and consignees of petroleum products are entitled to adequate service by motor vehicle as well as by rail."

Another objection of the rail carriers, according to the report, was the "hazards surrounding transportation of petroleum products in motor vehicles of a size and capacity similar to those operated by the applicant."

Rail witnesses testified that the best interests of the general public require the ICC to "withhold certificates and permits for additional operations of gasoline carriers on highways until the ICC has prescribed regulations relating to qualifications, and maximum hours of service of employes, safety of operations and standards of equipment."

**Safety a Factor**

Answering this objection, the ICC averred: "Applicant's equipment is of a type and size similar to that operated by many other motor carriers of petroleum products. When safety regulations are made effective all holders of certificates and permits will be required to comply therewith. If all certificates for new common carrrier operations were to be so withheld, shippers would be denied a convenient and necessary service until such time as we make safety regulations effective."

The commission further pointed out that it was directed to regulate transportation by motor carriers in such a manner as to recognize and preserve its inherent advantages.

# Markets

## Refined Oil Markets Improve

N. P. N. News Bureau
CLEVELAND, March 22

THE third week of March saw considerable improvement in the general refined oil price structure. Light fuel oils were easier quite generally and gasoline was unsettled along the east and west coasts and in the Pennsylvania refinery market. But numerous favorable developments tipped the balance heavily to the improvement side.

Outstanding in its influence on the Mid-Continent and Mid-Western refinery markets was the purchase of approximately 1000 cars of high octane gasoline by a major company with nationwide distribution. In view of the substantial increase in consumption anticipated this year, its stocks of gasoline were alarmingly low at this time, the company said.

Other large companies also were active buyers of gasoline. Reports indicated that threatened strikes of refinery workers had a good bit to do with the swing of those usually sellers to the buying side.

Mid-Continent gasoline prices advanced 0.125 cent. Low octane prices were up 0.375 cent, high octane 0.25 cent, in the Mid-Western tank car market.

Natural gasoline extended its rally in the Mid-Continent.

Pennsylvania lubricating oils remained tight,—dark stocks were up 0.5 to 2.5 cents a gallon, and buyers continued to bid up bright stock and neutral oil prices.

Kerosine was steady in the majority of markets.

## Mid-Continent

### Gasoline More Active

N. P. N. News Bureau
TULSA, March 22

● Interest in the Mid-Continent switched from natural gasoline to refined gasoline the third week of March. It was refined gasoline that staged the most spectacular comeback. Oklahoma natural gasoline prices rallied late in the week, but this was expected by most traders.

Under the impetus of large company buying and increased jobber inquiry, gasoline prices steadied considerably the early part of the week. As the week progressed, prices began a gradual climb upward, netting an 0.125-cent advance in most districts.

Steadiness of refined gasoline stimulated inquiry from jobbers. Apparently jobbers stocks were low and when prices showed signs of improving, they entered the market to lay in supplies. Buying was not of the speculative type. With consumption increasing, larger working stocks were needed, buyers said. Inter-refinery purchases cleared the market of surplus and distress offerings of gasoline. While reports indicated one of these purchases amounted to 1000 cars, a check among Mid-Continent refiners indicated majority of purchases were in lots of less than 50 cars. The buying centered on high octane gasoline. This grade was hardest hit in the recent price decline.

When tank car marketers learned of inter-refinery activity, many of them immediately began picking up odd-car lots of gasoline offered at bargain prices. It was not very long until these offerings were cleaned up.

### N. P. N. Gasoline Index

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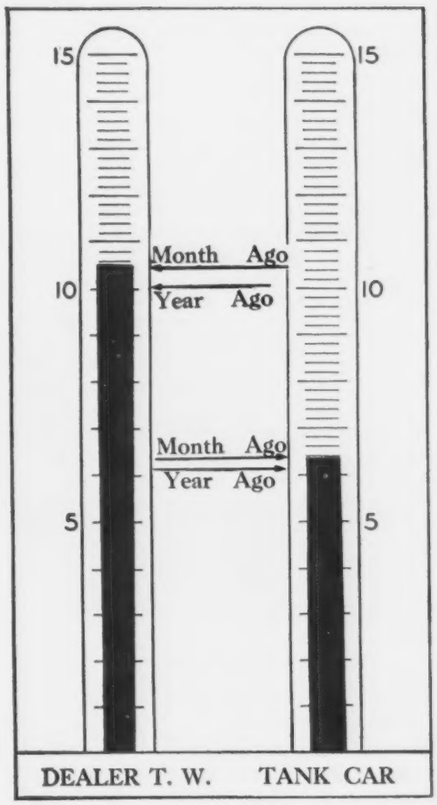



Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities. Tank car index is a weighted average of 13 wholesale markets for regular-grade gasoline. The gasoline price index this week represents the following prices in cents per gallon:

| | Dealer T. W. | Tank Car |
|---|---|---|
| Mar. 22 | 10.53 | 6.37 |
| Month ago | 10.52 | 6.41 |
| Year ago | 10.00 | 6.20 |

With tractor users becoming "octane conscious", demand for octane gasoline from agricultural areas was brisker.

When normal Group 3 channels were clogged last week with excess natural gasoline, these supplies were shunted to the Gulf Coast. Group 3 prices dropped 0.125 cent under Texas quotations, but Gulf business cleared the market of excess supplies and prices returned to 3 cents, f.o.b. Group 3.

Kerosine was listless. Supplies still were closely held, but orders were not numerous. Most refiners were holding supplies until spring buying begins.

Active export demand and advancing prices for Pennsylvania lubricating oils were expected to result in wider use of Mid-Continent lubricating stocks.

Quotations for South Texas lubes were reduced early last week.

A London buyer inquiring for wax, reported most Mid-Continent sellers were sold up.

## Pennsylvania

### Cylinder Stocks Tight

N. P. N. News Bureau
CLEVELAND, March 22

● Price trends showed little change in the western Pennsylvania refinery market in the week ended March 20. Lubricating oils continued to point higher. All light oils were easier and prices for gasoline and kerosine were lower.

Dark cylinder stocks were the only lubricating items to show any appreciation in general market value although bright stocks and neutral oils were active and were quoted higher by many sellers.

High flash dark stocks were hard to obtain and prices for the most part were nominal Resale agents who were short of supplies bid prices up 1 to 2.5 cents a gallon in an effort to encourage refiners to manufacture these items. With 600 steam refined at 17 cents, refiners found it more profitable to manufacture bright stock rather than the high flash dark stocks.

There were large standing orders in the market for practically all bright stock and neutral oil available for April shipment. Most of this demand was from eastern major companies. Jobbers, most of whom were under contract, were beginning to increase their takings. One large sale of 25 pour test bright stock was to a major company at 26 cents, 1 cent above the general market.

Inventories of bright stock showed a fairly substantial increase last week, but this was said to be due to the fact that an eastern exporter was preparing for two

large foreign shipments which were scheduled for the last week in March.

Gasoline inventories, particularly U. S. Motor, were burdensome to several companies and lower prices were quoted in an effort to stimulate movement. The high octane grades were in better shape than U. S. Motor but at the same time prices were 0.125 cent lower throughout the field. As the market went down, a few refiners withdrew, stating that they preferred to build up inventories for the big consuming season.

The in-between-seasons demand for kerosine was unusually light, although toward the end of last week lower field refiners reported some increase in shipments. Lower field prices were steady. Upper field quotations were down 0.25 cent to meet eastern competition, refiners said.

Fuel oil was scarce and steady at 4.5 to 4.625 cents in the upper field. Prices were down 0.125 cent at 4.125 to 4.375 cents in the lower districts.

Wax was in fair demand and supplies were well held.

**YOUR Report on N.P.N.'s Market Section**

In making a contemplated revision of the regular Market Section appearing in each weekly issue of NATIONAL PETROLEUM NEWS, to make it better serve our readers' needs, we are analyzing the returns readers have sent us to the questions in the special insert appearing following page 40 in the March 10th issue.

We want that analysis to represent the views of as many readers as possible. Some readers undoubtedly are holding the questionnaire in their March 10th issue, awaiting the time to give it proper attention.

Will such readers please take the few moments necessary NOW and send in their report. We can only make this Market Section of the greatest possible value to readers by knowing their needs for market information as set forth in their answers to the March 10th questionnaire.

We want to complete this Market Section revision as soon as possible, so please mail us your report AT ONCE—*Editors.*

## California

### Gasoline Unsettled

N. P. N. News Bureau

LOS ANGELES, March 19

Irregularity of tank wagon quotations on second structure gasoline was a disturbing feature of the Los Angeles Basin market the past week.

Until recently, wholesale and retail price cutting on that market was confined largely to third structure and competitive brands, and only occasionally were premium brands affected to any great extent. This condition continued to exist, so far as posted wholesale and retail prices were concerned. The irregularity was brought about by secret rebates and special allowances from bulk prices and by cutting-under-the-canopy tactics at service stations.

In some instances, major company affiliates were reported to be selling second structure gasoline to distributors at 7 cents a gallon, exclusive of tax, and to favorably located service stations, in truck and trailer lots, at about the same figure. This was 2 cents under the nominal, net tank wagon price for third structure gasoline in the Basin.

Independent refiners did not appear to be generally involved in this practice of rebating on second structure gasoline. One reason was that their output consisted chiefly of competitive brands of gasoline and another was that they had built up little consumer demand for a premium brand.

So far, a majority of major companies have shown no disposition to consider the acute competition in third structure and competitive brands a serious threat to the whole refined products price structure. They have not attempted to meet the low prices for those products quoted by aggressive independent refiners but, instead, have concentrated their efforts on the sale of premium brands, both in their advertising and in service station sales policies. However, this broadening of the competitive price field to include second structure brands changed the outlook and was expected to lead to drastic action, unless otherwise corrected.

Tank wagon quotations on major company third grade and on a majority of independent refiners competitive brands of gasoline remained, nominally, at 13 cents, inclusive of 4 cents tax, for deliveries in the Basin area.

A decline was noted in the quantity of competitive gasoline entering the Basin from independent refineries in the San Joaquin Valley. The decline was attributed, in part, to an increase of approximately 0.25 cent in the delivered price of the gasoline, bringing it up to 7.5 cents, exclusive of tax.

Natural gasoline was quoted at 7.25 to 7.5 cents, f.o.b. refinery. The field price, in the Basin, was 6.5 cents. Demand was somewhat in excess of supply.

No important changes were recorded in burning oils, although the trend appeared to be higher in kerosine, k. d. stock, and gas oil. At independent plants in the Basin, gas oil quotations ranged from $1.05 to $1.10 per barrel, and k. d. stock averaged about 3 cents a gallon. At similar plants in the Valley, gas oil ranged up to $1.25 per barrel and k. d. stock was quoted at 3 to 3.5 cents.

Major company quotations on burning oils were unchanged.

Interest on Pacific Coast seaboard markets continued to center on inquiries from European buyers and on shipments to Atlantic foreign ports. No important changes in quotations were reported.

## Eastern

### Gasoline Unchanged

N. P. N. News Bureau

NEW YORK, March 22

Gasoline markets were unchanged along the eastern seaboard last week. Service station markets were reported unsettled in some sections, but, on the whole, prices appeared fairly steady.

Posted service station prices for regular grade gasolines at Philadelphia ranged from 9 cents a gallon, exclusive of taxes, for so-called unbranded gasolines to 12.5 cents, without tax, for branded gasolines. Stations posting the higher price, however, were reported to be giving discounts of 2 and 2.5 cents a gallon in many instances. Tank car markets in the Philadelphia district remained unchanged with 65 octane and above quoted at 6.75 cents and up, f.o.b. terminals.

No changes were reported in tank car and barge prices for gasoline at other seaboard terminals, although opinions differed as to the steadiness of these markets. Some traders felt that there was a likelihood of lower prices in view of some of the unsettled service station markets and the continued increase in gasoline stocks throughout the country. Others said that present terminal markets were steady and that the general trend of commodity prices was upward and gasoline was no exception. They also felt that consumption would increase enough in 1937 to more than take up the excess currently in storage.

Demand for kerosine was fairly good and prices remained unchanged at most seaboard terminals. However, at New York harbor quotations were lowered 0.125 cent in some quarters. This brought barge prices to 5.125 cents, f.o.b. the harbor.

## Coastal

### Buying Less Active

N. P. N. News Bureau

NEW YORK, March 22

Cargo buying at the Gulf was reported considerably less active last week than in the previous two weeks. Inquiries still were in the market for gas oil for export movement and several domestic buyers were said to be interested in buying gasoline, but no actual sales were confirmed.

Export buyers were reported willing to continue their purchases of gas oil, which had been frequent the past few weeks, but apparently were lowering their ideas of prices below levels at which Gulf suppliers were willing to sell.

Quotations on export grades of gas oil generally were at a minimum of 3.875 cents, f.o.b. the Gulf, with some reports that this price might be shaded a sixteenth of a cent. However, it appeared that export buyers were trying to buy at about 0.25 cent a gallon under prevailing Gulf quotations.

Gasoline markets at the Gulf were reported steady with suppliers not pushing sales. Reports were that at least three cargoes of above 65 octane gasoline had been sold for domestic coastwise movement, but these could not be confirmed.

# REFINERY TANK CAR MARKETS

*Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.*

## Gasoline *and* Naphtha

| | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| **OKLAHOMA** (Prices represent majority of quotations or sales, f.o.b. Oklahoma refineries) | | | |
| 48-54, 450 e.p. naphtha | ..... | ..... | 4.375– 4.625 |
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 4.75 – 5.00 | 4.625– 4.875 | 4.625– 4.875 |
| 63-67 octane | 5.25 – 5.50 | 5.125– 5.25 | 5.125– 5.375 |
| 68-70 octane (regular) | 5.75 – 6.00 | 5.625– 5.875 | 5.625– 5.875 |
| 60-62, 400 e.p. gasoline | 4.75 – 5.00 | 4.625– 4.875 | 4.625– 5.125 |
| 64-66, 375 e.p. gasoline | *5.00 – 5.125 | *5.00 – 5.25 | *5.00 – 5.25 |
| 68-70, 350-360 e.p. gasoline | *5.00 – 5.25 | *5.00 – 5.375 | *5.00 – 5.375 |
| *Nominal. | | | |
| **WESTERN PENNA.** (Prices represent majority of quotations or sales) | | | |
| *Bradford-Warren*: | | | |
| 52-54 naphtha | 4.75 – 4.875 | 4.75 – 4.875 | 4.875– 5.00 |
| Motor gasoline: | | | |
| U.S. Motor (58.62°) | 4.75 – 4.875 | 4.875– 5.00 | 5.00 – 5.125 |
| Minimum 60 octane | *6.875– 7.00 | *7.00 | *7.00 |
| Minimum 65 octane | *7.125– 7.25 | *7.25 | *7.25 |
| 64-66, 390 e.p. gasoline | 5.00 – 5.125 | 5.125– 5.25 | 5.25 – 5.375 |
| 68-70, 350-360 e.p. gasoline | 5.25 – 5.375 | 5.375– 5.50 | 5.50 – 5.625 |
| *Other districts*: | | | |
| 52-54 naphtha | 4.50 – 4.625 | 4.625– 4.75 | 4.75 – 4.875 |
| 54-56 naphtha | 4.50 – 4.75 | 4.75 – 4.875 | 4.875– 5.00 |
| Motor gasoline: | | | |
| U. S. Motor (58-62°) | 4.625– 4.75 | 4.75 – 4.875 | 4.875– 5.00 |
| Minimum 60 octane | 6.75 – 6.875 | 6.75 – 6.875 | 6.75 – 6.875 |
| Minimum 65 octane | 6.875– 7.00 | 7.00 – 7.125 | 7.00 – 7.125 |
| 64-66, 390 e.p. gasoline | 5.00 – 5.125 | 5.125– 5.25 | 5.25 – 5.375 |
| 68-70, 350-360 e.p. gasoline | 5.25 – 5.375 | 5.375– 5.50 | 5.50 – 5.625 |
| *Nominal. | | | |
| **CALIFORNIA** (3c tax to be added to prices if used in state) | | | |
| 54-58 U. S. Motor, 437 e.p. for in-state shipment | 7.50 – 8.75 | 7.50 – 8.75 | 7.50 – 8.75 |
| 54-58 U. S. Motor, 437 e.p. for outside state shipment | 7.75 – 8.75 | 7.75 – 8.75 | 7.75 – 8.75 |
| 58-61, 375-400 e.p. gasoline, 65 octane and above | 8.00 – 9.25 | 8.25 – 9.25 | 8.25 – 9.25 |
| †**NORTH TEXAS** (Prices represent majority of quotations or sales, F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments). | | | |
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 4.75 – 5.25 | 4.625– 5.125 | 4.625– 5.125 |
| 63-67 octane | 5.125– 5.25 | 5.00 – 5.125 | 5.00 – 5.125 |
| 68-70 octane (regular) | 5.625– 5.875 | 5.50 – 5.625 | 5.50 – 5.625 |
| 60-62, 400 e.p. gasoline | *4.75 – 5.25 | *4.75 – 5.125 | *4.75 – 5.125 |
| *Nominal. | | | |
| **KANSAS** (F.o.b. refinery, Kansas destination) | | | |
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 5.125– 5.50 | 5.00 – 5.25 | 5.00 – 5.25 |
| 68-70 octane (regular) | 6.125– 6.50 | 6.00 – 6.25 | 6.00 – 6.25 |
| †**WEST TEXAS and NEW MEXICO** (Prices represent majority of quotations or sales, F.o.b. W. Texas and N. Mexico refineries for unrestricted shipment unless otherwise noted.) | | | |
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 4.75 – 4.875 | 4.625– 4.75 | 4.625– 4.75 |
| 63-67 octane | 5.125– 5.375 | 5.00 – 5.25 | 5.00 – 5.25 |
| 68-70 octane (regular) | 5.75 – 5.875 | 5.625– 5.75 | 5.625– 5.75 |
| †**EAST TEXAS** (Prices represent majority of quotations or sales, F.o.b. East Texas refinery for unrestricted shipment unless otherwise noted). | | | |
| 60-62, 400 e.p. gasoline | *4.75 – 4.875 | *4.75 | *4.75 |
| *Nominal. | | | |
| **NORTH LOUISIANA** (Prices represent majority of quotations or sales, f.o.b. Louisiana refineries, for shipment within Louisiana and into Arkansas). | | | |
| U. S. Motor gasoline: | | | |
| 62 octane and below | 5.50 | 5.50 | 5.50 |
| 63-67 octane | 5.75 | 5.75 | 5.75 |
| 68-70 octane (regular) | 6.25 | 6.25 | 6.25 |
| †Refiners report they generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment. | | | |
| | **Mar. 22** | **Mar. 15** | **Mar. 8** |
| **ARKANSAS** (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana). | | | |
| U. S. Motor Gasoline: | | | |
| 62 octane and below | 5.00 | 5.00 | 5.00 |
| 63-67 octane | 6.00 – 6.125 | 6.00 – 6.125 | 6.00 – 6.125 |
| 68-70 octane (regular) | ..... | ..... | *6.50 |
| *Nominal. | | | |
| **OHIO** (Quotations of S. O. Ohio. Delivered any point in Ohio). | | | |
| U. S. Motor gasoline | 8.50 | 8.375 | 8.375 |
| Above 65 octane no. | 8.75 | 8.625 | 8.625 |

## Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of quotations or sales to blenders on freight basis shown below. Shipments, however, may originate in other Mid-Continent manufacturing districts, such as Panhandle Texas, Southwest Texas or Kansas.)

| | | | |
|---|---|---|---|
| **F.O.B. GROUP 3** | | | |
| Grade 26-70 | 3.00 | 3.00 | 3.25 |
| **F.O.B. BRECKENRIDGE** | | | |
| Grade 26-70 | 3.00 | 3.00 | 3.00 |
| **CALIFORNIA** (F.o.b. plants in Los Angeles basin) | | | |
| 75-85, 375-390 e.p. for blending | 7.25 – 7.50 | 7.125– 7.50 | 7.125– 7.50 |

## Kerosine

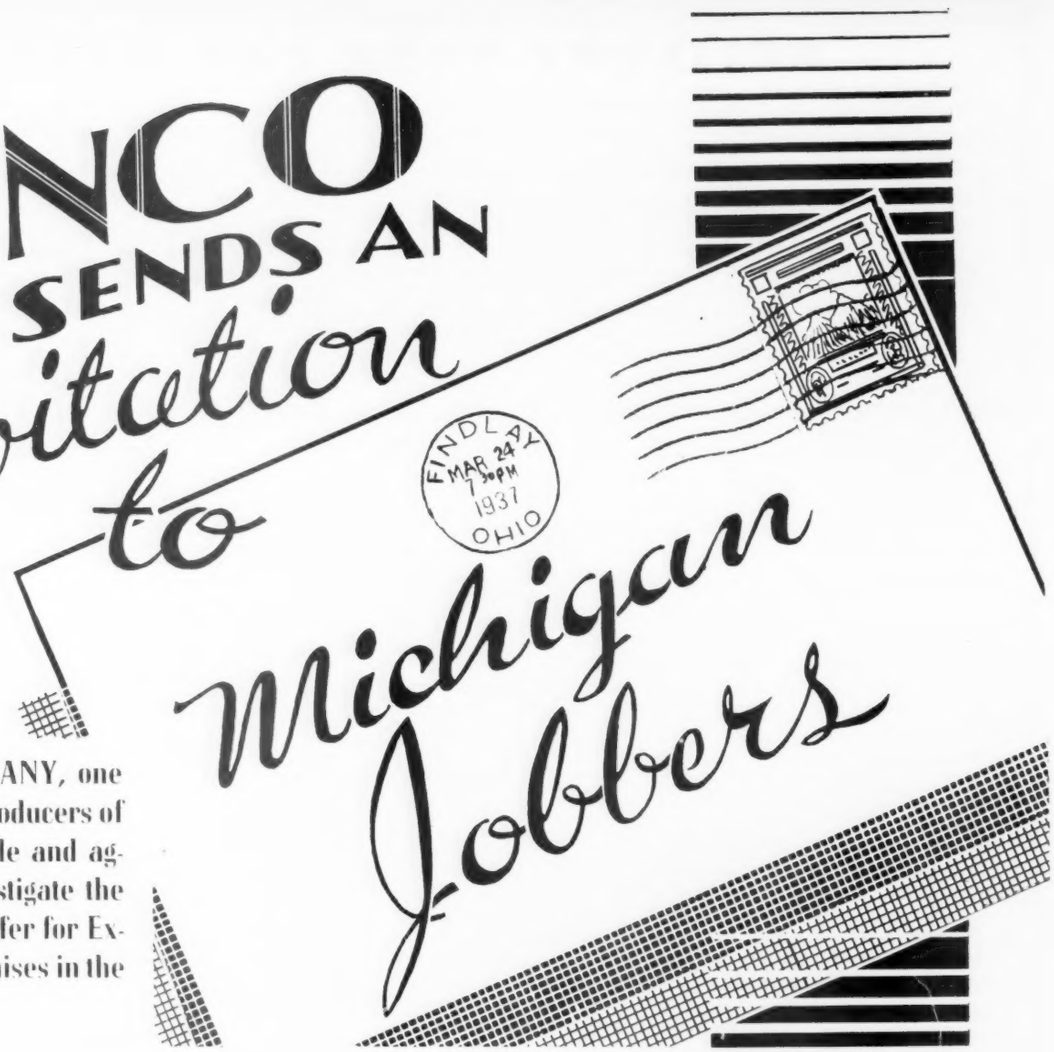
| | | | |
|---|---|---|---|
| **WESTERN PENNA.** (Prices represent majority of quotations or sales). | | | |
| *Bradford-Warren*: | | | |
| 45 w.w. kerosine | 4.875– 5.00 | 5.125– 5.25 | 5.125– 5.25 |
| 46 w.w. kerosine | 5.00 – 5.125 | 5.25 – 5.375 | 5.25 – 5.375 |
| 47 w.w. kerosine | 5.125– 5.25 | 5.375– 5.50 | 5.375– 5.50 |
| *Other districts*: | | | |
| 45 w.w. kerosine | 5.00 – 5.125 | 5.00 – 5.125 | 5.00 – 5.125 |
| 46 w.w. kerosine | 5.125– 5.25 | 5.125– 5.25 | 5.125– 5.25 |
| 47 w.w. kerosine | 5.25 – 5.375 | 5.25 – 5.375 | 5.25 – 5.375 |
| **OKLAHOMA** (Prices represent majority of quotations or sales, f.o.b. Oklahoma refineries). | | | |
| 41-43 w.w. kerosine | 4.125– 4.375 | 4.125– 4.375 | 4.125– 4.375 |
| 42-44 w.w. kerosine | 4.25 – 4.50 | 4.25 – 4.50 | 4.25 – 4.50 |
| **KANSAS** (F.o.b. refinery Kansas destination). | | | |
| 41-43 w.w. kerosine | 4.375– 4.625 | 4.375 | 4.375 |
| 42-44 w.w. kerosine | 4.50 – 4.75 | 4.50 | 4.50 |
| †**NORTH TEXAS** (Prices represent majority of quotations or sales, f.o.b Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments). | | | |
| 41-43 w.w. kerosine | 4.375– 4.50 | 4.375– 4.50 | 4.375– 4.50 |
| †**EAST TEXAS** (Prices represent majority of quotations or sales, f.o.b. East Texas refinery for unrestricted shipment unless otherwise noted). | | | |
| 41-43 w.w. kerosine | *4.00 – 4.125 | *4.00 – 4.125 | *4.00 – 4.25 |
| *Nominal. | | | |
| **NORTH LOUISIANA** (Prices represent majority of quotations or sales, f.o.b Louisiana refineries, for shipment within Louisiana and into Arkansas). | | | |
| 41-43 w.w. kerosine | 4.375– 4.50 | 4.375– 4.50 | 4.375– 4.50 |
| **ARKANSAS** (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana). | | | |
| 41-43 w.w. kerosine | †4.75 | †4.75 | †4.75 |
| †Only one refiner quoting. | | | |
| **CALIFORNIA** (F.o.b. California refineries). | | | |
| 38-40 w.w. kerosine | 5.00 – 6.00 | 5.00 – 6.00 | 5.00 – 6.00 |

## Gas and Fuel Oils

| | | | |
|---|---|---|---|
| **WESTERN PENNA.** (Prices represent majority of quotations or sales). | | | |
| *Bradford-Warren*: | | | |
| 36-40 fuel oil | 4.50 – 4.625 | 4.50 – 4.625 | 4.50 – 4.625 |
| *Other districts*: (Excluding Pittsburgh District Prices). | | | |
| 36-40 fuel oil | 4.125– 4.375 | 4.25 – 4.375 | 4.25 – 4.375 |
| **OKLAHOMA** (Prices represent majority of quotations or sales, f.o.b. Oklahoma refineries). | | | |
| No. 1 white fuel oil | 3.875– 4.125 | 4.00 – 4.125 | 4.00 – 4.25 |
| No. 1 straw fuel oil | 3.875– 4.00 | 3.875– 4.00 | 3.875– 4.00 |
| No. 2 straw fuel oil | 3.50 – 3.625 | 3.50 – 3.75 | 3.625– 3.75 |
| No. 2 dark fuel oil | 3.375– 3.625 | 3.50 – 3.625 | 3.50 – 3.75 |
| U. G. I. gas oil | *3.25 | *3.25 | *3.25 |
| *Only one refiner quoting. | | | |

(*Continued on page 33*)

# LINCO SENDS AN *Invitation to Michigan Jobbers*




THE OHIO OIL COMPANY, one of the world's largest producers of crude oil, invites reliable and aggressive jobbers to investigate the opportunities it has to offer for Exclusive Territory Franchises in the state of Michigan.

Jobbers can depend upon the QUALITY and UNIFORMITY of LINCO PRODUCTS — these characteristics being most essential in the building of a successful jobbing business.

Among our products are the efficient LINCO GASOLINE and LINCO-MARATHON OILS. Linco gasoline is refined from Illinois Crude, resulting in a superior motor fuel giving motorists more power and extra mileage. Linco-Marathon oils of exceptional durability are refined from the cream of RANGER (Texas) Paraffin-base Crude.

LINCO GASOLINES
•
LINCO-MARATHON MOTOR OILS
•
LINCO-PENN MOTOR OILS
•
LINCO BATTERIES and ACCESSORIES
•
LINCO TIRES and TUBES

Your inquiry regarding an Exclusive Territory Franchise will merit very prompt response. Let us explain full details without any obligation to you.

*Write, Phone or Wire.*

MARATHON PRODUCTS BEST IN THE LONG RUN

LINCO

## THE OHIO OIL COMPANY

GENERAL OFFICES - - - - FINDLAY, OHIO

ROBINSON, ILLINOIS TULSA, OKLAHOMA FT. WORTH, TEXAS

# REFINERY TANK CAR MARKETS

*Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.*

**Oklahoma** (cont'd)

| | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| Fuel Oils: (Prices per barrel of 42 U. S. gallons) | | | |
| 28-30 zero | 3.375– 3.50 | 3.375– 3.625 | 3.50 – 3.625 |
| 28-30 | †$1.25 | $1.20 –$1.25 | $1.20 –$1.25 |
| 24-26 | *$0.90 | *$0.85 –$0.90 | *$0.85 –$0.90 |
| 18-22 | *$0.825–$0.90 | *$0.825–$0.90 | *$0.825–$0.90 |
| 14-16 | *$0.80 –$0.85 | *$0.80 –$0.85 | *$0.80 –$0.85 |

†Only one refiner quoting.

**KANSAS** (F.o.b. refinery, Kansas destination)

| | | | |
|---|---|---|---|
| No. 1 p.w. fuel oil | 4.25 – 4.375 | 4.125– 4.375 | 4.125– 4.375 |
| 10-14 fuel oil (per bbl.) | $0.775–$0.85 | $0.775–$0.85 | $0.775–$0.85 |

*Nominal.

**NORTH TEXAS** (Prices represent majority of quotations or sales, f.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).

| | | | |
|---|---|---|---|
| No. 1 white, fuel oil | *3.875– 4.00 | *4.00 | *4.00 |
| No. 2 fuel oil | ..... | ..... | *3.50 – 3.625 |
| U.G.I. gas oil | 2.75 | 2.75 | 2.75 |
| 24-26 fuel oil (per bbl.) | $0.85 –$0.875 | $0.85 –$0.875 | $0.85 –$0.875 |
| 18-22 fuel oil (per bbl.) | $0.80 –$0.825 | $0.80 –$0.825 | $0.80 –$0.825 |

*Nominal.

**WEST TEXAS** (Prices represent majority of quotations or sales, f.o.b. West Texas refineries for unrestricted shipment unless otherwise noted).

| | | | |
|---|---|---|---|
| No. 2 fuel oil | *3.375– 3.50 | *3.50 | *3.50 |

*Nominal.

**EAST TEXAS** (Prices represent majority of quotations or sales, f.o.b. East Texas refineries for unrestricted shipment unless otherwise noted).

| | | | |
|---|---|---|---|
| No. 1 white, fuel oil | *3.875– 4.00 | *3.875– 4.00 | *3.875– 4.00 |
| No. 2 fuel oil | ..... | ..... | *3.625– 3.75 |

*Nominal.

**NORTH LOUISIANA** (Prices represent majority of quotations or sales f.o.b. Louisiana refineries, for shipment within Louisiana and into Arkansas).

| | | | |
|---|---|---|---|
| No. 2 fuel oil | 3.50 – 3.625 | 3.50 – 3.625 | 3.50 – 3.625 |
| 20-24 fuel oil (per bbl.) | $1.10 –$1.15 | $1.10 –$1.15 | $1.10 –$1.15 |
| 16-20 fuel oil (per bbl.) | $0.95 –$1.00 | $0.95 –$1.00 | $0.95 –$1.00 |
| 10-14 fuel oil (per bbl.) | $0.75 –$0.85 | $0.75 –$0.85 | $0.75 –$0.85 |

**ARKANSAS** (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana).

| | | | |
|---|---|---|---|
| No. 2 fuel oil | *3.75 | *3.75 | *3.75 |
| 28-30 gas oil, zero | *3.625 | *3.625 | *3.625 |
| 10-14 fuel oil (per bbl.) | $0.70 | $0.70 | $0.70 |

*Only one refiner quoting.

**CALIFORNIA**

| | | | |
|---|---|---|---|
| *San Joaquin Valley*, per bbl.: | | | |
| Grade C fuel oil | $0.65 –$0.85 | $0.65 –$0.85 | $0.65 –$0.85 |
| Diesel fuel oil | $1.15 –$1.68 | $1.15 –$1.68 | $1.15 –$1.68 |
| Stove distillate | $1.36 –$2.10 | $1.36 –$2.10 | $1.36 –$2.10 |
| *Los Angeles*, per bbl.: | | | |
| Grade C fuel oil | $0.70 –$1.05 | $0.70 –$1.05 | $0.70 –$1.05 |
| Diesel fuel | $1.15 –$1.68 | $1.10 –$1.68 | $1.15 –$1.68 |
| Stove distillate | $1.36 –$2.10 | $1.36 –$2.10 | $1.36 –$2.10 |
| *San Francisco*, per bbl.: | | | |
| Grade C fuel oil | $1.22 | $1.22 | $1.22 |
| Diesel fuel | $1.89 | $1.89 | $1.89 |
| Stove distillate | $2.31 | $2.31 | $2.31 |

## Neutral Oils

**WESTERN PENNA.** (Prices represent majority of quotations or sales).

*Viscous Neutrals (Viscosity at 70° F.)*

| | | | |
|---|---|---|---|
| 200 Vis. (180 at 100°) No. 3 color, 420-425 flash: | | | |
| 0 pour test | 28.00 –28.50 | 27.00 –27.50 | 25.50 –26.00 |
| 10 pour test | 27.00 –27.50 | 26.00 –26.50 | 24.50 –25.00 |
| 15 pour test | 26.50 –27.00 | 25.50 –26.00 | 24.00 –24.50 |
| 25 pour test | 25.50 –26.00 | 24.50 –25.00 | 23.00 –23.50 |
| 180 Vis. (165 at 100) No. 3 color, 410-415 flash: | | | |
| 25 pour test | 24.00 –24.50 | 23.00 –23.50 | 22.00 –22.50 |
| 150 Vis. (143 at 100) No. 3 color, 400-405 flash: | | | |
| 0 pour test | 24.00 –24.50 | 23.00 –23.50 | 22.00 –22.50 |
| 10 pour test | 23.00 –23.50 | 22.00 –22.50 | 21.00 –21.50 |
| 15 pour test | 22.50 –23.00 | 21.50 –22.00 | 20.50 –21.00 |
| 25 pour test | 21.50 –22.00 | 20.50 –21.00 | 19.50 –20.00 |

**SOUTH TEXAS** (Quotations of majority of sellers for tank car lots, f.o.b. South Texas refineries, for domestic shipment).

| Vis. Color | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| Pale Oils: | (*Viscosity at 100° F.; pour test 0*) | | |
| 100 No. 1½-2½ | 5.25 – 5.50 | 5.25 – 5.50 | 5.50 – 6.00 |
| 200 No. 2-3 | 7.25 – 7.50 | 7.25 – 7.50 | 7.50 – 8.00 |
| 300 No. 2-3 | 7.75 – 8.00 | 7.75 – 8.00 | 8.00 – 8.50 |
| 500 No. 2½-3½ | 8.75 – 9.00 | 8.75 – 9.00 | 9.00 – 9.50 |
| 750 No. 3-4 | 9.25 – 9.50 | 9.25 – 9.50 | 9.50 –10.00 |
| 1200 No. 3-4 | 9.75 –10.00 | 9.75 –10.00 | 10.00 –10.50 |
| 2000 No. 4 | 10.25 –10.50 | 10.25 –10.50 | 10.50 –11.00 |
| Red Oils: | | | |
| 200 No. 5-6 | 7.25 – 7.50 | 7.25 – 7.50 | 7.50 – 8.00 |
| 300 No. 5-6 | 7.75 – 8.00 | 7.75 – 8.00 | 8.00 – 8.50 |
| 500 No. 5-6 | 8.75 – 9.00 | 8.75 – 9.00 | 9.00 – 9.50 |
| 750 No. 5-6 | 9.25 – 9.50 | 9.25 – 9.50 | 9.50 –10.00 |
| 1200 No. 5-6 | 9.75 –10.00 | 9.75 –10.00 | 10.00 –10.50 |
| 2000 No. 5-6 | 10.25 –10.50 | 10.25 –10.50 | 10.50 –11.00 |

Note: South Texas red oil prices shown above cover oils with green cast; blue cast red oils are slightly lower in some cases.

**MID-CONTINENT** (Viscosity at 100° F.; f.o.b. Tulsa basis. Prices represent majority of quotations or sales).

**(0 to 10 Pour Point)**

| Pale Oils<br>Vis. Color | | | |
|---|---|---|---|
| 60-85—No. 2 | 5.50 | 5.50 | 5.25 |
| 86-110—No. 2 | 6.00 | 6.00 | 5.75 |
| 150—No. 3 | 9.00 | 9.00 | 9.00 |
| 180—No. 3 | 10.00 | 10.00 | 10.00 |
| 200—No. 3 | 10.50 | 10.50 | 10.50 |
| 250—No. 3 | 11.50 | 11.50 | 11.50 |
| 280—No. 3 | 12.50 | 12.50 | 12.50 |
| 300—No. 3 | 13.00 | 13.00 | 13.00 |
| Red Oils: | | | |
| 180—No. 5 | 9.00 | 9.00 | 9.00 |
| 200—No. 5 | 9.50 | 9.50 | 9.50 |
| 250—No. 5 | 10.50 | 10.50 | 10.50 |
| 280—No. 5 | 11.50 | 11.50 | 11.50 |
| 300—No. 5 | 11.75 | 11.75 | 11.75 |

*Note: Viscous oils, 15-25 pour point, generally are quoted 0.5c under 0-10 pour point oils. Non-viscous oils, 15-25 pour point generally are quoted 0.25c under 0-10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, generally are quoted 0.5c above No. 5 color oils. Prices represent majority of quotations or sales.

*Correction: This note in effect Mar. 15 instead of note published Mar. 17 issue, page 41.

**CHICAGO** (F.o.b. Chicago District refineries) (Vis. at 100° F.).

| Pale Oils *0 to 10 pour point:<br>Vis. Color | | | |
|---|---|---|---|
| 60-85—No. 2 | 7.25 | 7.00 | 6.50 |
| 86-110—No. 2 | 7.75 | 7.50 | 7.00 |
| 150—No. 3 | 10.00 | 9.50 | 9.50 |
| 180—No. 3 | 11.00 | 10.50 | 10.50 |
| 200—No. 3 | 11.50 | 11.00 | 11.00 |
| 250—No. 3 | 12.50 | 12.00 | 12.00 |
| Red Oils *0 to 10 Pour Point: | | | |
| 180—No. 5 | 10.00 | 9.50 | 9.50 |
| 200—No. 5 | 10.50 | 10.00 | 10.00 |
| 250—No. 5 | 11.50 | 11.00 | 11.00 |
| 280—No. 5 | 12.50 | 12.00 | 12.00 |
| 300—No. 5 | 12.75 | 12.25 | 12.25 |

*Viscous oils, 15 to 30 pour point are quoted 0.5c lower. 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 pour point, are quoted 0.25c lower, beginning March 15, 1937. To obtain delivered prices in Chicago, add 0.25c per gal.

Note: Chicago neutral oil prices are being changed in this issue from 15 to 30 pour point to 0 to 10 pour point oils to afford an easier comparison with Mid-Continent prices.

## Cylinder Stocks

**MID-CONTINENT** (F.o.b. Tulsa basis. Prices represent majority of quotations or sales).

| | | | |
|---|---|---|---|
| Bright Stocks: | | | |
| 190-200 Vis. at 210° D | 23.00 | 23.00 | 22.50 |
| 150-160 Vis. at 210° D: | | | |
| 0 to 10 pour point | 20.00 | 20.00 | 19.50 |
| 10 to 25 pour point | 19.50 | 19.50 | 19.00 |
| 25 to 40 pour point | 19.00 | 19.00 | 18.50 |
| 150-160 Vis. at 210° E | 19.00 | 19.00 | 18.50 |
| 120 Vis. at 210° D: | | | |
| 0 to 10 pour point | 19.00 | 19.00 | 18.50 |
| 10 to 25 pour point | 18.50 | 18.50 | 18.00 |
| 25 to 40 pour point | 18.00 | 18.00 | 17.50 |
| 60 Stm. Rfd. Dark Green | 5.50 – 7.50 | 5.50 – 7.50 | 5.50 – 7.50 |
| 600 Stm. Rfd. Olive Green | 7.00 – 9.50 | 7.00 – 9.50 | 7.00 – 8.00 |
| 631 Steam Refined | *17.00 | *17.00 | *16.00 |
| Black Oil | 3.50 | 3.50 | 3.50 |

*Only one refiner quoting.

**CHICAGO** (F.o.b. Chicago district refineries) (Viscosity at 210°)

| Unfiltered Steam Refined: | | | |
|---|---|---|---|
| 140 | 9.00 | 9.00 | 9.00 |
| 160 | 10.00 | 10.00 | 10.00 |
| 200 | 11.00 | 11.00 | 11.00 |
| Bright stocks, 160 vis. at 210. No. 8 color: | | | |
| 0 to 10 pour point | 21.75 | *21.75 | 21.25 |
| 15 to 25 pour point | 21.25 | *21.25 | 20.75 |
| 30 to 40 pour point | 20.75 | *20.75 | 20.25 |
| E filtered Cyl. Stock | 15.50 | *15.50 | 15.00 |

To obtain prices delivered in Chicago, add 0.25c per gal.

*Correction: This price in effect Mar. 15 instead of price published Mar. 17 issue, page 41.

**WESTERN PENNA.** (A.S.T.M. tests; prices represent majority of quotations or sales, to car unloaders).

| | | | |
|---|---|---|---|
| 600 stm. rfd. filterable | *17.50 –18.00 | *17.00 –17.50 | 16.00 –16.50 |
| 650 steam refined | *19.00 –19.50 | *18.00 –18.50 | 17.00 –17.50 |

*Nominal.

(*Continued on page* 35)

The sale price was reported to be 6.125 or 6.25 cents a gallon, f.o.b. the Gulf, which was the generally quoted level for this grade of gasoline.

Kerosine was in little demand, either for domestic or export movement. No open market cargo sales were reported. Quoted prices were lowered 0.125 cent by some suppliers who had been asking 5.125 cents a gallon. Others generally were quoting 5 cents, although indications were that this price might be shaded with a firm offer.

No change was reported in Grade C bunker oil. Traders generally said that only occasional cargoes were available in the open market. On the other hand, they said that boat rates still were so high as to curb buyer interest in purchases for coastwise movement. Quotations ranged from $0.90 to $0.95 a barrel for Grade C, with the majority at the higher figure.

## Wax

### Scale Quiet

NEW YORK, March 22. — Crude scale wax markets were quiet in the week ended March 20. Traders generally said demand was nominal with little effort by suppliers to push sales. Quotations for 124-126 white crude scale mostly at 2.65 to 2.7 cents at New York for prompt shipment. Suppliers apparently were refraining from quoting on futures and little business was reported done in that direction.

No changes were reported in fully refined wax markets.

## Chicago

### Gasoline Higher

N. P. N. News Bureau

CHICAGO, March 22

● The Mid-Western gasoline market, under impetus of buying by refiners, started out to do things the third week of March, and accomplished gains of 0.25 to 0.375 cent in tank car quotations.

These gains were slightly more spectacular when considered in the light of the market's statistical position, according to observers here. Refinery stocks of gasoline continued to rise, crossing 81,000,000 barrels in the week ended March 13. While sellers generally said jobber inquiry was brisker, actual buying was slow.

Resellers reported that offerings from most refiners were limited throughout the week. One independent refiner, with offices in Chicago, reported he had tried to purchase 100 cars of 68-70 octane U. S. Motor gasoline from sellers here without success.

Desireable low octane U. S. Motor advanced from a low of 4.375 cents at the close of business March 12 to 4.75 cents

(*Continued on page* 40)

# *Fuel Oil* DEMAND CENTERS ON HEAVY OILS; LIGHT OILS EASIER

FUEL oil demand centered on the heavier grades in most refinery districts last week. Milder weather spread over the eastern half of the country and there was a further decline in distributor demand for the light oils.

Prices for heavy fuels were held in all markets. Railroads continued to be active buyers in the southwest and there were some indications that they were storing oil in anticipation of higher crude prices.

Light oil prices were easier but as yet there have been no wide recessions in the majority of markets.

* * *

TULSA, March 22.—Buying of light fuels by northern distributors was lighter last week as milder weather cut down consumption of heating oil. Increased offerings resulted in lower prices in two or three Mid-Continent districts.

Some refiners were converting light fuel oil stock into tractor fuels. Others apparently had supplies they wished to dispose of and lower prices were quoted in attempts to stimulate buying. Only occasional sales were reported in the open market, however.

"Running little short, hope you can deliver your maximum." In that nine-word telegram received by one Mid-Continent refiner is a summary of the heavy fuel oil market from the railroad viewpoint. Increased business has made necessary the ordering out of all the heavy fuel possible. Then there were indications railroads wished to put some oil in storage. There have been reports of further crude price advances within the next few months. Railroad fuel oil contracts are based on price of crude.

Industrial demand for heavy oils continued fairly active, although labor troubles have curtailed industrial consumption somewhat.

* * *

NEW YORK, March 22.—The official end of winter on March 20 found tank car markets for light fuel oils fairly steady at eastern seaboard terminals. The weather generally was cold enough to keep home consumption at a good level, distributors reported. Movement to jobbers from seaboard terminals was steady, although the bulk of movement was against contracts.

Tank car prices showed little change during the week. Some No. 2 fuel oil was reported available at 4.375 cents in tank car lots, and 4.25 cents in barges, at New York harbor, but the majority of quotations apparently were still at 4.5 and 4.375 cents, respectively. Large buyers, both refiners and jobbers, were reported to have been turned down on offers of 4.125 cents for sizable quantities of No. 2 oil.

Several cargoes of light fuel oil which ordinarily would have been brought to northern seaboard terminals this month have been moved in export channels, thus lightening the available supply for domestic use.

Heavy fuel oils showed little change. Movement was good and stocks at northern ports were reported to be in good balance with supply.

* * *

CHICAGO, March 22.—Fuel oils were listless in the Mid-Western tank car market the week ended March 20. Mild weather throughout most of the middle western consuming area has curtailed consumption and jobber buying was extremely spotty.

What buying was accomplished last week generally sought the lowest possible price, and as buyers turned to "shopping"

(*Continued on page* 38)

## FUEL OILS

*Prices in Effect March 22, 1937*

*Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.*

| | No. 1 | No. 2 | No. 3 | No. 4 |
|---|---|---|---|---|
| **S. O. NEW JERSEY** | | | | |
| Newark, N. J. | * | 6.50 | 6.50 | 6.50 |
| Atlantic City, N. J. | * | 6.5 | 6.5 | 6 |
| Baltimore, Md. | * | 6.75 | 6.75 | 6.25 |
| Washington, D. C. | * | 7.00 | 7.00 | 7.00 |

*Discounts*: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

**SOCONY-VACUUM OIL CO., INC.**
**(S. O. New York Division)**

| | | | | |
|---|---|---|---|---|
| New York City | * | 7.00 | 7.00 | 6.5 |
| Albany, N. Y. | * | 7.00 | 7.00 | 6.5 |
| Rochester, N. Y. | * | 7.00 | 7.00 | 7.00 |
| Boston, Mass. | * | 6.75 | 6.75 | 6.75 |
| Bangor, Me. | * | 5.75 | 5.75 | 5.75 |
| Manchester, N. H. | * | 6.75 | 6.75 | 6.75 |
| Burlington, Vt. | * | 7.50 | 7.50 | .... |
| New Haven, Conn. | * | 6.25 | 6.25 | 6.25 |
| Providence, R. I. | * | 6.75 | 6.75 | 6.25 |

*Discounts*: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals. 0.5c. Contract buyers are paying 0.25c less than above prices at New York City, Albany, New Haven and Providence due to top-price contracts.

*Prices for No. 1 fuel in S. O. New Jersey and Socony-Vacuum territories same as for kerosine, which see in tank wagon table for various cities; prices change with kerosine.

**ATLANTIC REFINING**

| | | | | |
|---|---|---|---|---|
| Philadelphia, Pa. | 7.25 | 6.50 | 6.50 | 6.00 |
| Allentown, Pa. | 7.75 | 7.00 | 7.00 | 7.00 |
| Wilmington, Del. | 8.00 | 6.50 | 6.50 | 6.00 |
| Springfield, Mass. | 7.50 | 6.25 | .... | 6.25 |
| Worcester, Mass. | 8.00 | 6.75 | .... | 6.75 |
| Hartford, Conn. | 7.5 | 6.50 | .... | 6.50 |
| **S. O. OHIO** | | | | |
| *Ohio Statewide | 8.00 | 7.50 | 7.00 | 6.75 |

*Note: S. O. Ohio prices are for hose dumps, bucket dumps are 0.5c per gallon higher.*

Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

**S. O. INDIANA**
**Stanolex Fuel and Furnace Oils**

| | No. 1 Fuel | Stanolex Furnace |
|---|---|---|
| Chicago | 7.00 | 7.00 |
| Indianapolis | ... | *11.7 |
| Detroit | 7.1 | 7.1 |
| Milwaukee | 8 | 7.3 |
| Minneapolis | 7.5 | 7.5 |
| Sioux City | 7.1 | 7.1 |
| St. Louis | 7.5 | 6.8 |
| Kansas City | 6.5 | 6.5 |

*Includes state tax of 4c.

*Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.*

# REFINERY TANK CAR MARKETS

*Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.*

## Cylinder Stocks (cont'd)

**Western Pennsylvania** (cont'd)

| | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| 600 flash | *20.00 -20.50 | *19.00 -19.50 | 18.00 -18.50 |
| 630 flash | *24.00 -24.50 | *21.00 -21.50 | 19.50 -20.00 |
| 600 Warren E | *19.50 -20.00 | *19.00 -19.50 | 18.00 -18.50 |

*Nominal

Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:

| | | | |
|---|---|---|---|
| 10 pour test | 28.00 -28.50 | 28.00 -28.50 | 26.50 -27.00 |
| 15 pour test | 27.00 -27.50 | 27.00 -27.50 | 25.50 -26.00 |
| 20 pour test | 26.00 -26.50 | 26.00 -26.50 | 24.50 -25.00 |
| 25 pour test | 25.00 -25.50 | 25.00 -25.50 | 23.50 -24.00 |

## Petrolatums

**WESTERN PENNA.** (Per pound, in barrels, carload lots, f.o.b. Penna. refineries. In tank cars, 0.5c per pound less. Quotations by majority of refiners making petrolatums).

| | | | |
|---|---|---|---|
| Snow white | 6.625- 6.75 | 6.625 | 6.625 |
| Lily White | 5.625- 5.75 | 5.625 | 5.625 |
| Cream White | 4.625- 4.75 | 4.625 | 4.625 |
| Light Amber | 2.75 - 2.875 | 2.75 | 2.75 |
| Amber | 2.50 - 2.625 | 2.50 | 2.50 |
| Red | 2.125- 2.375 | 2.00 - 2.125 | 2.00 - 2.125 |

## Wax

| | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| **WESTERN PENNA.** (Prices represent majority of quotations or sales, per pound, f.o.b. New York) | | | |
| 122-124 wh. crude scale, A.m.p. | 2.65 - 2.70 | 2.65 - 2.70 | 2.65 - 2.70 |
| 124-126 wh. crude scale, A.m.p. | 2.70 - 2.75 | 2.70 - 2.75 | 2.70 - 2.75 |
| **OKLAHOMA** (Prices represent majority of quotations or sales, per pound in barrels; in a few instances, per pound in burlap bags; f.o.b. Oklahoma refineries) | | | |
| 124-126 wh. crude scale, A.m.p. | 2.75 | 2.75 | 2.75 |
| **CHICAGO** (Quotations of majority of sellers f.o.b. Chicago district refineries, in bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.) | | | |
| *Fully refined:* | | | |
| 122-124 | 4.65 - 4.75 | 4.65 - 4.75 | 4.65 - 4.75 |
| 125-127 | 4.90 - 5.00 | 4.90 - 5.00 | 4.90 - 5.00 |
| 127-129 | 5.05 - 5.15 | 5.05 - 5.15 | 5.05 - 5.15 |
| 130-132 | *5.45 - 5.55 | *5.45 - 5.55 | *5.45 - 5.55 |
| 132-134 | *5.70 - 5.80 | *5.70 - 5.80 | *5.70 - 5.80 |
| 135-137 | *6.45 - 6.55 | *6.45 - 6.55 | *6.45 - 6.55 |

*Same prices quoted in bags or slabs loose.

# MID-WESTERN TANK CAR MARKETS

*Prices in cents per gallon, except where otherwise noted, in tank car lots, representing majority of quotations or sales made by Chicago sellers, from legally produced crude to jobbers on Group 3 (Oklahoma) freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.*

## Gasoline

| U. S. Motor gasoline: | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| 62 octane and below | 4.75 - 4.875 | 4.50 - 4.75 | 4.50 - 4.75 |
| 63-67 octane | 5.00 - 5.25 | 4.75 - 5.00 | 4.75 - 5.00 |
| 68-70 octane (regular) | 5.50 - 5.75 | 5.375- 5.75 | 5.125- 5.75 |
| 60-62, 400 e.p. | 4.75 - 4.875 | 4.50 - 4.75 | 4.50 - 4.75 |
| 64-66, 375 e.p. | 4.75 - 5.00 | †4.875 | †4.875 |
| 68-70, 350-360 e.p. | 4.75 - 5.00 | 4.625- 5.00 | 4.625- 5.00 |

†Only one seller quoting.

## Kerosine

| | | | |
|---|---|---|---|
| 41-43 w.w. | 4.125- 4.25 | 4.125- 4.25 | 4.125- 4.25 |
| 42-44 w.w. | 4.25 - 4.375 | 4.25 - 4.375 | 4.25 - 4.375 |

## Fuel and Gas Oils

| Domestic: | | | |
|---|---|---|---|
| No. 1 prime white | 3.75 - 4.125 | 4.00 - 4.125 | 4.00 - 4.125 |
| No. 1 straw | 3.625- 3.875 | 3.75 - 4.00 | 3.75 - 4.00 |
| No. 2 straw | 3.375- 3.625 | 3.50 - 3.75 | 3.50 - 3.75 |
| No. 2 dark | 3.25 - 3.50 | 3.375- 3.625 | 3.375- 3.625 |
| No. 3 | 3.25 - 3.50 | 3.25 - 3.50 | 3.25 - 3.50 |
| No. 4 (per bbl.) | $1.05 -$1.15 | *$1.10 -$1.15 | *$1.10 -$1.15 |
| No. 5 (per bbl.) | $0.85 -$0.90 | $0.85 -$0.90 | $0.85 -$0.90 |
| Industrial: | | | |
| No. 4 (per bbl.) | $0.95 -$1.05 | *$0.95 -$1.05 | *$0.95 -$1.05 |
| No. 5 (per bbl.) | $0.825-$0.90 | $0.825-$0.90 | $0.825-$0.90 |
| No. 6 (per bbl.) | $0.75 -$0.85 | $0.775-$0.85 | $0.775-$0.85 |
| U.G.I. gas oil | 2.75 - 2.875 | 2.75 | 2.75 |

*Nominal.

## Naphtha and Solvent

(Tank car prices quoted f.o.b. Group 3 by majority of Chicago sellers)

| | | | |
|---|---|---|---|
| Stoddard solvent | 6.875 | 6.875 | 6.875 |
| Cleaners' naphtha | 7.375 | 7.375 | 7.375 |
| V. M. & P. naphtha | 7.375 | 7.375 | 7.375 |
| Mineral spirits | 6.375 | 6.375 | 6.375 |
| Rubber solvent | 7.375 | 7.375 | 7.375 |
| Lacquer diluent | 8.375 | 8.375 | 8.375 |

# DAILY GASOLINE PRICES

*Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended March 19, 1937)*

| | Mar. 15 | Mar. 16 | Mar. 17 | Mar. 18 | Mar. 19 |
|---|---|---|---|---|---|
| **U. S. Motor, 62 octane and below:** | | | | | |
| *North Texas | 4.625- 5.125 | 4.75 - 5.25 | 4.75 - 5.25 | 4.75 - 5.25 | 4.75 - 5.25 |
| West Texas | 4.625- 4.75 | 4.625- 4.875 | 4.625- 4.875 | 4.625- 4.875 | 4.75 - 4.875 |
| Oklahoma | 4.625- 4.875 | 4.625- 5.00 | 4.75 - 5.00 | 4.75 - 5.00 | 4.75 - 5.00 |
| Mid-Western (Group 3 basis) | 4.50 - 4.75 | 4.50 - 4.75 | 4.50 - 4.75 | 4.625- 4.875 | 4.75 - 4.875 |
| **U. S. Motor, 63-67 octane:** | | | | | |
| *North Texas | 5.00 - 5.125 | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 |
| West Texas | 5.00 - 5.25 | 5.00 - 5.375 | 5.00 - 5.375 | 5.00 - 5.375 | 5.125- 5.375 |
| Oklahoma | 5.125- 5.25 | 5.125- 5.375 | 5.25 - 5.50 | 5.25 - 5.50 | 5.25 - 5.50 |
| Mid-Western (Group 3 basis) | 4.75 - 5.00 | 4.75 - 5.00 | 4.75 - 5.00 | 5.00 - 5.25 | 5.00 - 5.25 |
| **U. S. Motor, 68-70 octane (regular)** | | | | | |
| *North Texas | 5.50 - 5.625 | 5.625- 5.875 | 5.625- 5.875 | 5.625- 5.875 | 5.625- 5.875 |
| West Texas | 5.625- 5.75 | 5.625- 5.875 | 5.625- 5.875 | 5.625- 5.875 | 5.75 - 5.875 |
| Oklahoma | 5.625- 5.875 | 5.625- 6.00 | 5.75 - 6.00 | 5.75 - 6.00 | 5.75 - 6.00 |
| Mid-Western (Group 3 basis) | 5.375- 5.75 | 5.375- 5.75 | 5.375- 5.75 | 5.375- 5.75 | 5.50 - 5.75 |
| **Motor Gasoline, 60-64 octane** | | | | | |
| New York harbor | †6.75 - 7.00 | †6.75 - 7.00 | †6.75 - 7.00 | †6.75 - 7.00 | †6.75 - 7.00 |
| Philadelphia district | †6.50 - 7.00 | †6.50 - 7.00 | †6.50 - 7.00 | †6.50 - 7.00 | †6.50 - 7.00 |
| Baltimore district | †6.75 - 7.00 | †6.75 - 7.00 | †6.75 - 7.00 | †6.75 - 7.00 | †6.75 - 7.00 |
| **Motor Gasoline, 65 octane & above** | | | | | |
| New York harbor | †7.00 - 7.25 | †7.00 - 7.25 | †7.00 - 7.25 | †7.00 - 7.25 | †7.00 - 7.25 |
| Philadelphia district | †6.75 - 7.25 | †6.75 - 7.25 | †6.75 - 7.25 | †6.75 - 7.25 | †6.75 - 7.25 |
| Baltimore district | †7.00 - 7.25 | †7.00 - 7.25 | †7.00 - 7.25 | †7.00 - 7.25 | †7.00 - 7.25 |
| **U. S. Motor Gasoline, 58-62°** | | | | | |
| Bradford-Warren (Western Penna.) | 4.875- 5.00 | 4.875- 5.00 | 4.875- 5.00 | 4.75 - 4.875 | 4.75 - 4.875 |
| Other districts (Western Penna.) | 4.75 - 4.875 | 4.75 - 4.875 | 4.75 - 4.875 | 4.625- 4.75 | 4.625- 4.75 |
| **Motor Gasoline, Minimum 60 octane** | | | | | |
| Bradford-Warren (Western Penna.) | †7.00 | †7.00 | †7.00 | †7.00 | †6.875- 7.00 |
| Other districts (Western Penna.) | 6.75 - 6.875 | 6.75 - 6.875 | 6.75 - 6.875 | 6.75 - 6.875 | 6.75 - 6.875 |
| **Motor Gasoline, Minimum 65 octane** | | | | | |
| Bradford-Warren (Western Penna.) | †7.25 | †7.25 | †7.25 | †7.25 | †7.125- 7.25 |
| Other districts (Western Penna.) | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 | 6.875- 7.00 |

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.
†Nominal.

# TANK WAGON, SERVICE STATION MARKETS

*Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Mar. 22, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections*

## S. O. New Jersey

**ESSOLENE**

| | Consumer Tank Car | Dealer T.W. | Taxes | Posted S.S. | Total Dealer T.W. | Kerosine T.W. |
|---|---|---|---|---|---|---|
| Atlantic City, N. J. | 7.5 | 9 | 4 | * | 8 | |
| Newark, N. J. | 7 | 8.5 | 4 | * | 8 | |
| Annapolis, Md | 8.6 | 10.1 | 5 | * | 10 | |
| Baltimore, Md | 8 | 9.5 | 5 | * | 8.5 | |
| Cumberland, Md | 9.4 | 11.9 | 5 | * | 10 | |
| Washington, D. C. | 8 | 9.5 | 3 | 16 | 9 | |
| Danville, Va | 9.2 | 11.7 | 6 | * | 12.9 | |
| Norfolk, Va | 8 | 10.5 | 6 | * | 11.5 | |
| Petersburg, Va | 8.3 | 10.8 | 6 | * | 11.7 | |
| Richmond, Va | 8.3 | 10.8 | 6 | * | 11.7 | |
| Roanoke, Va | 9.5 | 12 | 6 | * | 12.9 | |
| Charleston, W. Va | 8.8 | 11.3 | 5 | * | 12.6 | |
| Parkersburg, W. Va | 8.1 | 10.6 | 5 | * | 11.2 | |
| Wheeling, W. Va | 9 | 10.5 | 5 | * | 12.2 | |
| Charlotte, N. C. | 9.4 | 11.9 | 7 | * | 12.6 | |
| Hickory, N. C. | 9.9 | 12.4 | 7 | * | 13 | |
| Mt. Airy, N. C. | 9.7 | 12.2 | 7 | * | 12.8 | |
| Raleigh, N. C. | 9 | 11.5 | 7 | * | 12.1 | |
| Salisbury, N. C. | 9.5 | 12 | 7 | * | 12.7 | |
| Charleston, S. C. | 8 | 10.5 | 7 | * | 11.1 | |
| Columbia, S. C. | 9 | 11.5 | 7 | * | 12.1 | |
| Spartanburg, S. C. | 9.7 | 12.2 | 7 | * | 12.9 | |

*S. O. New Jersey transferred stations to dealers; no prices available.

*Price basis to undivided dealers*: Dealer t.w. price less 0.5c per gal.

*Price basis to commercial consumers*: To contract accounts, purchasing at least one full compartment at a time by hose connection: Effective March 12, 1937, in New Jersey, and March 8 in Maryland, District of Columbia, and in Arlington and Fairfax Counties in Virginia, on yearly purchases: from 2,500 to 100,000 gals., consumer t.w. price at time and place of delivery; 100,000 gals. per year, consumer tank car price, plus 0.5c per gal. Consumer t.w. price will be equivalent of dealer t.w. price, less 0.5c per gal., generally.

Effective Jan. 7, 1937, in West Virginia, the following differentials apply above posted tank car price, on yearly purchases: up to 35,999 gals., 2.5c over t.c.; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c. Non-contract accounts, 2.5c over posted t.c. price.

Effective Jan. 25, 1937, in North and South Carolina, and effective Feb. 27, 1937 in Virginia except Arlington and Fairfax Counties, deliveries of 50 gals. or more at one time by t.w. will be billed at a price equal to 2c per gal. over the posted consumer t.c. price in effect at time and place of delivery. Deliveries of less than 50 gals. at one time will be billed at a price equal to 6c per gal. over the posted consumer t.c. price.

*Kerosine Discount*: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

## Socony-Vacuum Oil Co., Inc.

***(S. O. New York Division)***

**SOCONY MOBILGAS**

| | Consumer Tank Car | "Split" Dealer T.W. | Taxes | Total "Split" Dealer T.W. | Kerosine T.W. |
|---|---|---|---|---|---|
| Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens) | 8 | 9.5 | *4 | 13.5 | 7.75 |
| Borough of Richmond (Staten Is.) | 8 | 9 | 75*4 | 13.75 | 7.75 |
| Albany, N. Y. | 8 | 9.5 | 4 | 13.5 | 8.25 |
| Binghamton, N. Y. | 9.25 | 10.8 | 4 | 14.8 | 8.75 |
| Buffalo, N. Y. | 8.67 | 10.3 | 4 | 14.3 | 8.25 |
| Jamestown, N. Y. | 8.28 | 10.8 | 4 | 14.8 | 8.25 |
| Plattsburg, N. Y. | 8.4 | 10.4 | 4 | 14.4 | 9 |
| Rochester, N. Y. | 8.74 | 10.3 | 4 | 14.3 | 8.25 |
| Syracuse, N. Y. | 8.7 | 10.3 | 4 | 14.3 | 9 |
| Danbury, Conn. | 8.3 | 9.8 | 4 | 13.8 | 8.25 |
| Hartford, Conn. | 8.1 | 9.6 | 4 | 13.6 | 7 |
| New Haven, Conn | 8 | 9.5 | 4 | 13.5 | 7 |
| Bangor, Me. | 8.6 | 10.8 | 5 | 15.8 | 7.5 |
| Portland, Me. | 8 | 10.3 | 5 | 15.3 | 8.5 |
| Boston, Mass | 8 | 9.5 | 4 | 13.5 | 7.5 |
| Concord, N. H. | 8.7 | 11.3 | 5 | 16.3 | 9.25 |
| Lancaster, N. H. | 9.6 | 12.3 | 5 | 17.3 | 10.25 |
| Manchester, N. H. | 8.5 | 10.8 | 5 | 15.8 | 8.75 |
| Providence, R. I. | 8 | 9.5 | 3 | 12.5 | 7.75 |
| Burlington, Vt | 8.4 | 10.4 | 5 | 15.4 | 8.75 |
| Rutland, Vt. | 8.7 | 10.7 | 5 | 15.7 | 8 |

*Plus 2% city sales tax computed at time of each sale.

*Note*: Socony-Vacuum has transferred all service stations to dealers; no prices available.

*Price basis to undivided dealers*: 0.5c less than "split" dealer t.w.

*Price basis to commercial consumers*: Effective about Nov. 15, 1936 in New York and New England, for tank wagon delivery: monthly purchases of 25,000 gals. or over, pay consumer tank car price at point of delivery, plus 0.5c gal; monthly purchases of 5,000 to 25,000 gals., pay undivided dealer tank wagon price at point of delivery; monthly purchases of less than 5,000 gals., pay divided dealer tank wagon price at point of delivery. Private consumers pay undivided dealer tank wagon price at point of delivery, plus 2c gal.

## Atlantic Refining

**ATLANTIC WHITE FLASH GASOLINE**

| | Commercial Tank Car | All Tax | Total Dealer T.W. | S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Philadelphia, Pa. | 7.5 | 5 | 14 | 17.5 | 10.5 |
| Pittsburgh | 8.5 | 5 | 15.5 | 20 | 11 |
| Allentown | 8.25 | 5 | 14.5 | ** | 11 |
| Erie | 8 | 5 | 14.5 | ** | 11 |
| Scranton | 8.25 | 5 | 14.5 | ** | 11 |
| Altoona | 8.5 | 5 | 15.5 | ** | 11 |
| Harrisburg | 8.25 | 5 | 14.5 | ** | 11 |
| Williamsport | 8.5 | 5 | 15.5 | ** | 11 |
| Dover, Del | ... | 5 | 14.5 | ** | 11 |
| Wilmington | ... | 5 | 13.5 | ** | 11 |
| Boston, Mass | ... | 4 | 13.5 | ** | 7.5 |
| Springfield, Mass | ... | 4 | 13.8 | ** | 7.5 |
| Worcester, Mass | ... | 4 | 14.3 | ** | 8 |
| Fall River, Mass | ... | 4 | 13.5 | ** | 7.5 |
| Hartford, Conn | ... | 4 | 13.6 | ** | 7.5 |
| New Haven, Conn | ... | 4 | 13.5 | ** | 8 |
| Providence, R. I. | ... | 3 | 12.5 | ** | 7.5 |
| Atlantic City, N. J. | ... | 4 | 13 | ** | 8 |
| Camden, N. J. | ... | 4 | 13 | ** | 8 |
| Trenton, N. J. | ... | 4 | 13 | ** | 8 |
| Annapolis, Md | ... | 5 | 15.1 | ** | 9.5 |
| Baltimore, Md | ... | 5 | 14.5 | ** | 9 |
| Hagerstown, Md. | ... | 5 | 15.5 | ** | 10 |
| Richmond, Va. | ... | 6 | 16.8 | ** | 11.7 |
| Wilmington, N. C. | ... | 7 | 17.6 | ** | 11.3 |
| Brunswick, Ga | ... | 7 | 17.5 | ** | 13 |
| Jacksonville, Fla. | ... | 8 | 17.5 | ** | 11 |

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

*Price basis to undivided dealers*: Dealer t.w. less 0.5c per gal.

*Price basis to commercial consumers*: in Penna. and Delaware, effective Mar. 11, 1937, on yearly gasoline purchases to contract accounts taking full compartment hose deliveries, using 100,000 gals. or more per year, tank car price plus 0.5c per gal.; consumers taking less than 100,000 gals., undivided dealer price. Consumers under contract and not under contract, taking less than full compartment delivery and consumers not under contract taking full compartment delivery, get divided dealer price. Consumers taking less than 25 gals., t.w. delivery, get 4c above undivided dealer price.

*Discount on kerosine*: Effective Oct. 29, 1936, in Pennsylvania and Delaware, 2c per gal. off t.w. price on t.w. deliveries of 25 gals. or more at one time.

## S. O. Ohio

**SOHIO X-70 GASOLINE**

| | All Tax | **Commercial T.W. | †Divided Dlr. | Kerosine T.W. |
|---|---|---|---|---|
| Ohio State-Wide | 5 | 17 | 15.5 | 16 | *13.5 |
| Counties where prices are below statewide: | | | | | |
| Defiance, Franklin, Knox and Pickaway: | | | | | |
| | 5 | 16.5 | 14.5 | 15 | .... |
| Paulding | 5 | 16 | 14 | 14.5 | .... |

**RENOWN GASOLINE (Third Grade)**

| | | | | | |
|---|---|---|---|---|---|
| Ohio State-Wide | 5 | 16.5 | 15 | 15.5 | .... |
| Counties where prices are below statewide: | | | | | |
| Defiance, Franklin, Knox, and Pickaway | 5 | 15.5 | 14 | 14.5 | .... |
| Paulding | 5 | 15 | 13.5 | 14 | .... |
| Counties where prices are above statewide: Butler, Clermont, Darke, Greene, Hamilton, Hocking, Miami, Montgomery, Preble, Summit, and Warren | 5 | 17 | 15.5 | 16 | .... |

**KEROSINE PRICES**

*(Off Statewide Level)*

Kerosine prices are off statewide level in the following counties:

Gallia ..... *13

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Fulton, Geauga, Hancock, Hardin, Henry, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandot ..... *12.5

Defiance and Paulding ..... *12

Fayette, Licking, Madison and Pickaway .... * 9.5

*Kerosine prices include 1c state tax.

**Tank wagon price to commercial consumers, in t.w. deliveries of 25 gals. or more; less than 25-gal. deliveries get s.s. price. Price to undivided dealers is same as to commercial consumers.

†This price also to authorized agents, exclusive of 0.5c rental.

*Sales tax*: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices", S. O. Ohio says.

On kerosine, prices to resellers and commercial consumers are posted generally at 3c per gal. below consumer t.w. price in any quantity, when such prices are on state-wide level.

## S. O. Kentucky

**CROWN GASOLINE**

***(Regular Grade)***

| | Consumer T.W. | All Tax | Total Consumer T.W. | Net Dlr. | Kerosine T.W. |
|---|---|---|---|---|---|
| Covington, Ky. | 13 | 6 | 19 | 16 | 11 |
| Lexington, Ky | 13.5 | 6 | 19.5 | 16.5 | 11 |
| Louisville, Ky. | 13.5 | 6 | 19.5 | 16.5 | 10.5 |
| Paducah, Ky. | 13 | 6 | 19 | 16 | 10 |
| Jackson, Miss. | 14 | 7 | 21 | 18 | 13 |
| Vicksburg, Miss | 13.5 | 7 | 20.5 | 17.5 | 13 |
| Birmingham, Ala. | 13 | *8 | 21 | 18 | 12 |
| Mobile, Ala. | 13 | *9 | 22 | 19 | 11 |
| Montgomery, Ala. | 14 | *9 | 23 | 20 | 14.5 |
| Atlanta, Ga. | 15 | 7 | 22 | 19 | 13 |
| Augusta, Ga. | 11.5 | 7 | 18.5 | 15.5 | 14 |
| Macon, Ga | 14.5 | 7 | 21 | 18 | 14.5 |
| Savannah, Ga. | 13 | 7 | 20 | 17 | 13 |
| Jacksonville, Fla. | 12.5 | 8 | 20.5 | 17.5 | 11 |
| Miami, Fla. | 12.5 | 8 | 20.5 | 17.5 | 12.5 |
| Pensacola, Fla. | 13 | *9 | 22 | 19 | 12 |
| Tampa, Fla. | 12.5 | *9 | 21.5 | 18.5 | 12 |

**KYSO GASOLINE**

***(Third Grade)***

| | | | | | |
|---|---|---|---|---|---|
| Covington, Ky. | 11.5 | 6 | 17.5 | 15 | .... |
| Lexington, Ky. | 12 | 6 | 18 | 15.5 | .... |
| Louisville, Ky. | 12 | 6 | 18 | 15.5 | .... |
| Paducah, Ky. | 10.5 | 6 | 16.5 | 14 | .... |
| Jackson, Miss. | 12.5 | 7 | 19.5 | 17 | .... |
| Vicksburg, Miss. | 10.5 | 7 | 17.5 | 15 | .... |
| Birmingham, Ala. | 11 | *8 | 19 | 16.5 | .... |
| Mobile, Ala | 10.5 | *9 | 19.5 | 17 | .... |
| Montgomery, Ala. | 12 | *9 | 20.5 | 18 | .... |
| Atlanta, Ga. | 12 | 7 | 19 | 16.5 | .... |
| Augusta, Ga. | 9 | 7 | 16 | 13.5 | .... |
| Macon, Ga | 11.5 | 7 | 18.5 | 16 | .... |
| Pensacola, Fla. | 11.25 | *9 | 20.25 | 17.75 | .... |

*Discounts to tank wagon consumers*: Effective Jan. 4, 1937, thru territory, on Crown gasoline, 3c per gal. below consumer t.w. price; on Kyso, 2.5c below.

*Discounts on kerosine*: Prices in Kentucky are net, but in other states subject to 2c discount.

**Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola and Tampa, both 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine prices includes 1c city tax.

## S. O. Indiana

| | Red Crown Tax | Dealer Prices Red Crown Total T.W. | Stanolind | Kerosine T.W. |
|---|---|---|---|---|
| Chicago, Ill. | 4 | 16 | 14 | 14 | 10.1 |
| Decatur, Ill. | 4 | 16 | 14.5 | 14.5 | 10.1 |
| Joliet, Ill. | 4 | 16 | 14.5 | 14.5 | 10.1 |
| Peoria, Ill. | 4 | 16 | 14.5 | 14.5 | 10.1 |
| Quincy, Ill. | 4 | 15.8 | 14.3 | 14.3 | 9.9 |
| Indianapolis, Ind. | 5 | 17.7 | 16.2 | 16.2 | †13.6 |
| Evansville, Ind. | 5 | 17.5 | 16 | 16 | †14.6 |
| South Bend, Ind. | 5 | 17.9 | 16.4 | 16.4 | ‡13.6 |
| Detroit, Mich. | 4 | 15.1 | 13.6 | 13.6 | 9.8 |
| Grand Rapids, Mich. | 4 | 16.5 | 15 | 15 | 10.9 |
| Saginaw, Mich. | 4 | 16.3 | 14.8 | 14.8 | 10.7 |

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

# TANK WAGON, SERVICE STATION MARKETS

*Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Mar. 22, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections*

## S. O. Indiana—Cont'd

| | Red Crown Tax | Dealer Prices Red Crown Total T.W. | Stanolind | Kerosine T.W. |
|---|---|---|---|---|
| Green Bay, Wisc | 5 | 17.7 | 16.2 | 16.2 | 10.8 |
| Milwaukee, Wis | 5 | 17.3 | 15.8 | 14.2 | 10.4 |
| La Crosse, Wis | 5 | 17.4 | 15.9 | 15.9 | 10.5 |
| Minneapolis-St. Paul | 4 | 16.4 | 14.9 | 14.9 | 10.5 |
| Duluth, Minn | 4 | 16.8 | 15.3 | 15.3 | 10.9 |
| Mankato, Minn | 4 | 16.4 | 14.9 | 14.9 | 10.5 |
| Des Moines, Ia | 4 | 15.8 | 14.3 | 14.3 | 9.9 |
| Sioux City, Ia | 4 | 16 | 14.5 | 14.5 | 10.1 |
| Davenport, Ia | 4 | 16 | 14.5 | 14.5 | 10.1 |
| Mason City, Ia | 4 | 16.2 | 14.7 | 14.7 | 10.3 |
| St. Louis, Mo | †4 | 15.7 | 14.2 | 14.2 | 9.8 |
| Kansas City, Mo | †4 | 15.4 | 13.9 | 13.9 | 8.9 |
| St. Joseph, Mo | †4 | 15.4 | 11.9 | 11.9 | 9.5 |
| Fargo, N. D. | 4 | 17.4 | 15.9 | 15.9 | 11.5 |
| Minot, N. D. | 4 | 18.6 | 17.1 | 17.1 | 12.7 |
| Huron, S. D. | *5 | 17.8 | 16.3 | 16.3 | 10.9 |
| Wichita, Kans | 4 | 14.9 | 13.4 | 12.3 | 8.9 |

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

*South Dakota gasoline and kerosine prices include 0.1c for sales tax.

*Discount to commercial consumers*: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Minimum delivery is 25 gals.

***Subnormal Stanolind Points***

Normally Stanolind tank wagon prices are 1c under normal Red Crown t.w. prices. Among subnormal points on Stanolind t.w. are these: Des Moines, 14.1c; Mason City, 13.9c; Huron, 16c; and Wichita, 11.5c, all including state and federal taxes.

## S. O. Nebraska

**STANDARD RED CROWN GASOLINE**

| | All Tax | T.W. Total | Dealer Total | Kerosine T.W. |
|---|---|---|---|---|
| Omaha, Neb | 5 | 17.4 | 15.9 | 10.4 |
| McCook | 5 | 18.1 | 14.3 | 11.1 |
| Norfolk | 5 | 17.8 | 16.3 | 10.8 |
| North Platte | 5 | 18.2 | 16.7 | 11.2 |
| Scottsbluff | 5 | 18.9 | 17.4 | 10.9 |

*Discounts to commercial consumers*: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

## S. O. Louisiana

**ESSOLENE**

| | Consumer Tank Car | Dealer T.W. | Taxes | Posted S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Little Rock, Ark | 8 | 10.5 | 7.5 | ** | 11.5 |
| Alexandria, La | 8 | 10.5 | 8 | ** | *12 |
| Baton Rouge, La | 7.5 | 10 | 8 | 21.5 | *12 |
| New Orleans, La | 7.5 | 10 | *10 | 23.5 | *11 |
| Lake Charles, La | 8.5 | 11 | 8 | ** | *12.5 |
| Shreveport, La | 7 | 9.5 | 8 | ** | * 9.5 |
| Lafayette, La | 8.5 | 11 | 8 | ** | *12.5 |
| Bristol, Tenn | 10.5 | 11.75 | 8 | ** | 14.5 |
| Chattanooga, Tenn | 10 | 12.5 | 8 | ** | 13.5 |
| Knoxville, Tenn | 10.5 | 13 | 8 | ** | 14 |
| Memphis, Tenn | 8.5 | 11 | 8 | ** | 12 |
| Nashville, Tenn | 9.5 | 12 | 8 | ** | 13 |

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

*Price basis to dealers*: Undivided dealers get dealer price, less 0.5c.

*Price basis to commercial consumers*: Effective Dec. 21, 1936, thru territory; commercial consumers taking 50 gals. or more at one time by tank wagon, billed at price equivalent to 2c per gal. over posted consumer tank car price in effect at time and place of delivery; those taking less than 50 gals. at one time will be billed at a price equal to 6c per gal. over posted consumer t.c. price.

## Humble Oil & Refining Co.

**HUMBLE MOTOR FUEL**

| | *100% Dlr. T.W. | Total *100% Dlr. Taxes | T.W. | S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Dallas, Tex | 8.5 | 5 | 13.5 | 17 | 8 |
| Ft. Worth, Tex | 9 | 5 | 14 | 18 | 8 |
| Houston, Tex | 9.5 | 5 | 14.5 | 18.5 | 8 |
| San Antonio, Tex | 9.5 | 5 | 14.5 | 18.5 | 8 |

**U. S. MOTOR FUEL**

***(Third Grade)***

| | | | | |
|---|---|---|---|---|
| Dallas, Tex | 7 | 5 | 12 | 14 |
| Ft. Worth, Tex | 7.5 | 5 | 12.5 | 15 |
| Houston, Tex | 8.5 | 5 | 13.5 | 16.5 |
| San Antonio, Tex | 8.5 | 5 | 13.5 | 16.5 |

*Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.

*Price basis to dealers*: to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c, and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U. S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

## Continental Oil

| | Conoco Bronze Ex-Tax | All Tax | Total Conoco Bronze T.W. | Dealer-mand T.W. | Kerosine T.W. |
|---|---|---|---|---|---|
| Denver, Colo | 12.5 | 5 | 17.5 | 16.5 | 11.5 |
| Grand Junc., Colo | 15 | 5 | 20 | 19 | 15 |
| Pueblo, Colo | 10.5 | 5 | 15.5 | 14.5 | 10.5 |
| Casper, Wyo | 13 | 5 | 18 | 17 | 11.5 |
| Cheyenne, Wyo | 13 | 5 | 18 | 17 | 13 |
| Billings, Mont | 15.5 | 6 | 21.5 | 20.5 | 15.5 |
| Butte, Mont | 13.5 | 6 | 19.5 | 17.5 | 15.5 |
| Great Falls, Mont | 15.5 | 6 | 21.5 | 20.5 | 15.5 |
| Helena, Mont | 15.5 | 6 | 21.5 | 20.5 | 15.5 |
| Salt Lake City, Utah | 14.5 | 5 | 19.5 | 16.5 | 16 |
| Boise, Ida | 15 | 6 | 21 | 20 | 18 |
| Twin Falls, Ida | 15.5 | 6 | 21.5 | 20.5 | 18 |
| Albuquerque, N. M | 11 | †6.5 | 17.5 | 16.5 | 12 |
| Roswell, N. M | 12 | †6.5 | 18.5 | 15 | 10 |
| Santa Fe, N. M | 13 | *7 | 20 | 16.5 | 12 |
| Muskogee, Okla | 10.5 | 5 | 15.5 | 14.5 | 7 |
| Oklahoma City, Okla | 8 | 5 | 13 | 12 | 8 |
| Tulsa, Okla | 9 | 5 | 14 | 13 | 6 |
| Ft. Smith, Ark | 10 | 5 | 15 | 14 | 10 |
| Little Rock, Ark | 10 | 7.5 | 17.5 | 15.5 | 9.5 |
| Texarkana, Ark | 10 | 5 | 15 | 13 | 9 |

†Includes city tax of 0.5c.
*Includes 1c city tax.

## S. O. California

**STANDARD GASOLINE**

| | T.W. | Taxes | Total T.W. | S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| San Francisco, Cal | 13 | 4 | 17 | 18 | 11.5 |
| Los Angeles, Cal | 12.5 | 4 | 16.5 | 17.5 | 9 |
| Fresno, Cal | 14 | 4 | 18 | 19 | 12 |
| Phoenix, Ariz | 14.5 | 6 | 20.5 | 21.5 | †16 |
| Reno, Nev | 14.5 | 5 | 19.5 | 20.5 | 13 |
| Portland, Ore | 13.5 | 6 | 19.5 | 20.5 | 13.5 |
| Seattle, Wash | 13.5 | 6 | 19.5 | 20.5 | 13.5 |
| Spokane, Wash | 16.5 | 6 | 22.5 | 23.5 | 16.5 |
| Tacoma, Wash | 13.5 | 6 | 19.5 | 20.5 | 13.5 |

**FLIGHT GASOLINE**

***(Third Grade)***

| | | | | | |
|---|---|---|---|---|---|
| San Francisco, Cal | 11.5 | 4 | 15.5 | 16.5 | .... |
| Los Angeles, Cal | 11 | 4 | 15 | 16 | .... |
| Fresno, Cal | 12.5 | 4 | 16.5 | 17.5 | .... |
| Reno, Nev | 13 | 5 | 18 | 19 | .... |
| Phoenix, Ariz | 13 | 6 | 19 | 20 | .... |
| Portland, Ore | 12 | 6 | 18 | 19 | .... |
| Seattle, Wash | 12 | 6 | 18 | 19 | .... |
| Spokane, Wash | 15 | 6 | 21 | 22 | .... |
| Tacoma, Wash | 12 | 6 | 18 | 19 | .... |

†Includes 5c state tax.

*Discount to dealers*: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

*To commercial consumers*: off tank wagon price: on single deliveries of 40 gallons and over, Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline, 2c per gallon. Tank wagon delivery, less than 40 gals., 1c per gal. above posted t.w. price.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

## Canada

**PRICES OF IMPERIAL OIL LTD.**

Per Imperial Gallon, which is 1.2 U. S. Gallons

**3-STAR IMPERIAL GASOLINE**

| | T.W. | Taxes | Total T.W. | S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Hamilton, Ont | 16 | 6 | 22 | * | 17 |
| Toronto, Ont | 16 | 6 | 22 | 24.5 | 17 |
| Brandon, Man | 22.8 | 7 | 29.8 | 32.8 | 22.3 |
| Winnipeg, Man | 21.2 | 7 | 28.2 | 31.2 | 20.7 |
| Regina, Sask | 22.5 | 7 | 29.5 | * | 22 |
| Saskatoon, Sask | 25.3 | 7 | 32.3 | * | 24.8 |
| Edmonton, Alta | 23.5 | 7 | 30.5 | 33.5 | 24.2 |
| Calgary, Alta | 21 | 7 | 28 | 31 | 21.5 |
| Vancouver, B. C. | 15 | 7 | 22 | 26 | 23 |
| Montreal, Que | 13 | 6 | 19 | * | 17.5 |
| St. John, N. B. | 16 | 8 | 24 | 28 | 18.5 |
| Halifax, N. S. | 16 | 8 | 24 | 28 | 18.5 |

*Imperial Oil Ltd. transferred stations to dealers; no prices available.

*Discounts to Divided Dealers: off s.s. prices*: Maritime Provinces, 4c; Ontario, 2½c; Prairie Provinces and British Columbia, 3c, except Vancouver and Victoria, 4c; Quebec, divided dealers pay posted t.w. price. *To Undivided Dealers*: additional 1c discount throughout territory, except in Maritime Provinces.

## Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

**In Effect Mar. 22, 1937**

**S. O. NEW JERSEY**

| | Tank Car | T.W. |
|---|---|---|
| Bayonne, N. J. | 9.5 | 12 |
| Baltimore, Md | 10 | 12 |
| Washington, D. C. | | 12.6 |
| Richmond, Va | | 14.7 |
| Greensboro, N. C. | | 15.2 |
| Raleigh, N. C. | | 16.6 |
| Charleston, W. Va | | 14.7 |

**COLONIAL BEACON OIL CO.**

| | T.W. |
|---|---|
| Brooklyn, N. Y. | 12.8 |
| Buffalo, N. Y. | 14.1 |
| Boston, Mass | 15 |

**S. O. PENNSYLVANIA**

| | |
|---|---|
| Philadelphia, Pa | 12.3 |
| Pittsburgh, Pa | 12.6 |

**S. O. LOUISIANA**

| | |
|---|---|
| New Orleans, La | 13.3 |
| Shreveport, La | 13.6 |

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

*Note*: S.s. prices in above four territories are generally 6c over t.w. prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

**S. O. OHIO**

*Thru Ohio*

| | Consumer T.W. | Tax | Total Consumer T.W. |
|---|---|---|---|
| Stanavo Ethyl Aviation: | | | |
| 73 octane | 15.5 | 5 | 20.5 |
| 80 octane | 16.5 | 5 | 21.5 |
| 87 octane | 17.5 | 5 | 22.5 |

*Discounts*: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price, shown above.

**S. O. INDIANA**

| | | | |
|---|---|---|---|
| Chicago, Ill. | 15 | 4 | 19 |
| Detroit, Mich | 16.2 | 4 | 20.2 |
| Milwaukee, Wisc | 15.3 | 5 | 20.3 |
| Minneapolis, Minn | 15.4 | 4 | 19.4 |
| St. Louis, Mo | 14.7 | *4 | 18.7 |
| Kansas City, Mo | 14.4 | *4 | 18.4 |
| Fargo, N. D. | 16.4 | 4 | 20.4 |
| Huron, S. D. | 15.8 | 5 | 20.8 |

*Includes 1c city tax.
**Includes 0.1c to cover sales tax.

**HUMBLE OIL & REFINING CO.**

| | Tank Car |
|---|---|
| Baytown, Tex. (exclusive of taxes) | 8.5 |

**CONTINENTAL OIL CO.**

| | Dealer | Tax | Total Dealer |
|---|---|---|---|
| Denver, Colo | 15.5 | 5 | 20.5 |
| Cheyenne, Wyo | 16 | 5 | 21 |
| Helena, Mont | 18.5 | 6 | 24.5 |
| Salt Lake City, Utah | 17.5 | 5 | 22.5 |
| Albuquerque, N. M | 14 | *6.5 | 20.5 |

*Includes city tax of 0.5c.

**S. O. CALIFORNIA**

| | | | |
|---|---|---|---|
| Phoenix, Ariz | 16.5 | 6 | 22.5 |
| Los Angeles, Cal | 14.5 | 4 | 18.5 |
| San Francisco, Cal | 15 | 4 | 19 |
| Reno, Nev | 16.5 | 5 | 21.5 |
| Portland, Ore | 15.5 | 6 | 21.5 |
| Seattle, Wash | 15.5 | 6 | 21.5 |
| Spokane, Wash | 18.5 | 6 | 24.5 |

*Note*: For discounts, etc., see note under Standard and Flight gasoline above.

# TANK WAGON, SERVICE STATION MARKETS

*Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Mar. 22, 1937, as posted by principal marketing companies at their headquarters offices, but subject to later corrections*

## Naphtha (In Tank Wagon)

**In Effect Mar. 22, 1937**

**(Net price in Tank Wagon; in Cents per Gallon)**

***S. O. NEW JERSEY**

| | Mineral Spirits | V.M.&P. Naphtha |
|---|---|---|
| Baltimore, Md. | 14 | 15.5 |
| Newark, N. J. | 12.5 | 14.5 |
| Washington, D. C. | 14 | **17.5 |

*2c off t.w. prices to large buyers in some instances.
**Steel bbls. only.

**SOCONY-VACUUM OIL CO.**

| | | |
|---|---|---|
| Buffalo, N. Y. | *15 | 15 |
| New York City | 10.5 | 11.5 |
| Rochester, N. Y. | †16 | .... |
| Syracuse, N. Y. | **16 | .... |
| Boston, Mass. | 13 | 13.5 |
| Bridgeport, Conn. | 13.5 | 14 |
| Hartford, Conn. | 13 | 13.5 |
| Providence, R. I. | 13 | 14 |

*2c off for 50 gals. or more purchase; 3.5c off for 4,000 gals. or more.
†4c off for purchase of 150 gals. or more.
**Less 2c for 150 gals. or more.

**ATLANTIC REFINING CO.**

| | | |
|---|---|---|
| Philadelphia, Pa. | 11.5 | 12.5 |
| Lancaster, Pa. | 13 | 14 |
| Pittsburgh, Pa. | 12.5 | 14.5 |

*Note:* Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

**S. O. OHIO**

| | S.R. Solvent | V.M.&P. Naphtha |
|---|---|---|
| Thru Ohio | 13.25 | 13.75 |

*Note:* V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w. price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

**S. O. INDIANA**

| | Oleum Spirits | V.M.&P. Naphtha | Stanisol |
|---|---|---|---|
| Chicago, Ill. | 16.8 | 17.1 | 15.6 |
| Detroit, Mich. | 18.2 | 17.2 | 18.3 |
| Kansas City, Mo. | 13.9 | 14.9 | 13.9 |
| St. Louis, Mo. | 14.2 | 15.2 | 13.6 |
| Milwaukee, Wis. | 18.8 | 19.8 | 18.8 |
| Minneapol's, Minn. | 17.9 | 18.9 | 16 |

*Note:* Prices for V. M. & P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

## *Naphtha (In Tank Cars)*

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

| | V.M.&P. Naphtha | Solvent |
|---|---|---|
| Baltimore | 10.50 | 10 |
| New York Harbor | 10.5 | 9.5 |
| Philadelphia district | 10 | 9.5 |
| Boston | 10.5 | 10 |
| Providence | 10.5 | 10 |
| Ohio points, delivered | 9.25 | *8.75 |

*This is on S.R. solvent.
*Note:* In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

## Latest Changes

**From March 16 to March 22 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.**

*S. O. Ohio—X-70 and Renown:*

Ross county, consumer t. w. up 0.5c, commercial t. w. and divided dealer up 1c, March 19.

*Kerosine:*

Cut 4c, Licking county, March 16.

*S. O. Indiana—Red Crown and Stanolind:*

St. Joseph, cut 2c, March 16.

*Humble Oil & Refining—U. S. Motor:*

Dallas cut 1c; Fort Worth, t. w. cut 0.5c, March 16.

*Humble:*

Fort Worth, cut 0.5c, March 18.

*Kerosine:*

Cut 0.5c, thru Texas, March 18.

## Corrections

**Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.**

*S. O. New Jersey—Essolene:*

For revisions in commercial consumer price basis in Md., D. C., N. J. and two counties in Va., see footnote under S. O. New Jersey price table.

*Atlantic Refining—White Flash Gasoline:*

For revisions in commercial consumer price basis in Penna. and Delaware, see footnote under Atlantic Refg. price table.

*S. O. Ohio—Renown:*

Cut 1c thru Ross County, Mar. 15, to 15.5c consumer t.w., 14c commercial cons. t.w., and 14.5c divided dealer; these prices should have been shown for Renown in Mar. 17 issue.

## Fuel Oil

(*Continued from page* 34)

for their requirements more shading of prices was encountered.

Prices for No. 1 prime white oil were slightly lower March 16. Offerings of this grade, despite general price reductions, still were in fair balance with takings. Nos. 2 and 3 oils, however, bore the brunt of price shading.

Industrial fuels also were less active. Little change was noted in prices despite more liberal offerings of the Nos. 5 and 6 grades.

### To Enter Indian Market

WASHINGTON, March 22.—An American oil company operating oil fields in Bahrein Islands in the Persian Gulf is making extensive plans to enter the Indian market, according to a Commerce Department report from Bombay which does not disclose the identity of the company.

According to the Bombay report, the company plans to spend approximately $3,700,000 the first two years of its operations in India, building storage tanks at Bombay, Calcutta, Madras and Karchi. Fuel oil storage tanks at Colombo, Ceylon, already have been completed, and it is expected the first shipment of gasoline from Bahrein will arrive in Bombay within six to eight months.

The company's products will be distributed throughout India by a subsidiary that has been marketing lubricating oils in India for several years, the department said.

### Extend Oil Search

LONDON, March 15.—An important stage in the intensive oil exploration of Britain now being carried out was reached recently when the D'Arcy Exploration Co.'s search for oil at Portsmouth was completed. Although commercial production was not secured, information essential for the formation of future plans was obtained from the initial test and the companion test at Henfield, Sussex. As a result, an extension of the company's drilling program is to start immediately.

The principal aim in both the Portsmouth and Henfield wells was to test the lower cretaceous and upper jurassic horizons. The result can be said to indicate there is a considerable area where these strata are neither sufficiently permeable nor sufficiently porous to contain oil in commercial quantities.

So far as the Portsmouth structure is concerned, despite the fact that small traces of oil were found in the upper jurassic series, the well has proved that no production of oil can be expected there. The Henfield well, which is down over 4790 feet, is expected to reach its objective—the base of the lias formation—at about 5500 feet by the beginning of April.

A further test of the lower cretaceous and upper jurassic strata at Kingsclere, Berkshire county, will commence early in May.

Drilling at Eskdale, Yorkshire county, to test the permian limestone, should be started in the latter part of May.

A further well location has been selected at Cousland, Scotland, and negotiations with the landowner are now in progress. Shallow borings are being carried out at Poxwell, Dorset county, prior to selecting a location for a well to test the coralian formation.

# SEABOARD MARKETS, EXPORT AND COASTWISE

*Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons*

## Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of quotations or sales. Inter-refinery and export prices not included. Florida and S. Carolina inspection tax not included)

***MOTOR GASOLINE**

| Prices March 22 | †60-64 Octane | †65 Octane and Above |
|---|---|---|
| New York harbor | 6.75 – 7.00 | 7.00 – 7.25 |
| New York harbor, barges | 6.50 – 6.75 | 6.75 – 7.00 |
| Philadelphia district | 6.50 – 7.00 | 6.75 – 7.25 |
| Baltimore district | 6.75 – 7.00 | 7.00 – 7.25 |
| Norfolk district | 7.00 | 7.50 |
| Wilmington, N. C. district | 7.25 | 7.50 |
| Charleston, S. C. district | 7.25 | 7.50 |
| Savannah district | 7.25 | 7.50 |
| Jacksonville district | 7.25 | 7.50 |
| Portland district | 7.25 | 7.50 |
| Boston district | 7.00 | 7.25 |
| Boston district, barges | 6.75 | 7.00 |
| Providence district | 7.00 | 7.25 |
| Providence district, barges | 6.75 | 7.00 |

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

†Nominal.

**†WATER WHITE KEROSINE**

| Prices March 22 | | | |
|---|---|---|---|
| New York harbor | 5.25 – 5.375 | Savannah district | 5.75 |
| N. Y. harbor, barges | 5.125– 5.25 | Jacksonville district | 5.75 |
| Philadelphia district | 5.50 | Portland district | 6.00 |
| Baltimore district | 5.50 | Boston district | 5.25 – 5.50 |
| Norfolk district | 5.50 | Boston dist., barges | 5.25 – 5.375 |
| Wilmington, N. C. | 5.50 | Providence district | 5.25 – 5.50 |
| Charleston, S. C. dist. | 5.50 | Providence, barges | 5.25 – 5.375 |

***FUEL OILS**

| Prices March 22 | New York harbor | New York harbor, barges | Philadelphia district |
|---|---|---|---|
| No. 1 | 5.25 – 5.375 | 5.125– 5.25 | 5.50 |
| No. 2 | 4.50 | 4.375 | 4.50 – 4.75 |
| No. 3 | 4.50 | 4.375 | 4.50 – 4.75 |
| No. 4 | 4.25 | 4.125 | 4.25 – 4.50 |
| No. 5 (per barrel) | $1.40 | ..... | $1.47 |
| No. 6 (per barrel) | $1.20 | ..... | $1.20 |

| | Baltimore district | Boston district |
|---|---|---|
| No. 1 | 5.50 | 5.25 – 5.50 |
| No. 2 | 4.625 | 4.625 |
| No. 3 | 4.625 | 4.625 |
| No. 4 | 4.375 | 4.625 |
| No. 5 (per barrel) | $1.40 | $1.50 |
| No. 6 (per barrel) | $1.20 | $1.20 |

| | Boston dist., barges | Providence district | Providence dist., barges |
|---|---|---|---|
| No. 1 | 5.25 – 5.375 | 5.25 – 5.50 | 5.25 – 5.375 |
| No. 2 | 4.50 | 4.625– 4.75 | 4.50 – 4.625 |
| No. 3 | 4.50 | 4.625– 4.75 | 4.50 – 4.625 |
| No. 4 | 4.50 | 4.25 – 4.375 | 4.125– 4.25 |

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

| | Bunker Oil Grade C Per Barrel | Diesel Oil Ships' Bunkers Per Barrel | Gas Oil 28-34 Gravity Per gallon | Diesel Oil Shore Plants Per gallon |
|---|---|---|---|---|
| New York harbor | *$1.20 | *$1.85 | 4.75 | 4.75 |
| Philadelphia dist. | *$1.20 | *$1.85–$2.00 | 4.75 | .... |
| Baltimore district | *$1.20 | *$1.85 | 4.75 | .... |
| Norfolk district | *$1.20 | *$1.9425 | 4.75 | .... |
| Charleston district | $1.15 | $1.85 | .... | .... |
| Savannah district | $1.15 | $1.89 | .... | 4.75 |
| Jacksonville dist. | $1.15 | $1.995 | .... | 4.75 |
| Tampa district | $1.15 | $1.995 | .... | .... |
| Portland district | $1.30 | $1.95 | .... | .... |
| Boston district | $1.20 | *$1.85 | .... | .... |
| Providence district | $1.20 | $1.85 | .... | .... |

*Lighterage for bunker oil, 5c per bbl. additional; or Diesel oil, 6.5c per bbl. additional.

## Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

| Prices— | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| 53-55 U. S. Motor | 5.00 – 5.50 | 5.00 – 5.50 | 5.00 – 5.50 |
| 400 e.p. blend 65 Octane and above | 5.25 – 6.00 | 5.25 – 6.00 | 5.25 – 6.00 |
| 38-40 w.w. kerosine, 150 fire point | 4.50 – 5.00 | 4.50 – 5.00 | 4.50 – 5.00 |
| 41-43 w.w. kerosine | 4.75 – 5.00 | 4.75 – 5.00 | 4.75 – 5.00 |
| 44 water white kerosine | 5.00 | 5.00 | 5.00 |
| Prime white kerosine | 4.25 – 4.50 | 4.00 – 4.50 | 4.00 – 4.50 |
| *In Cargo lots*, per barrel | | | |
| Diesel fuel oil, above 23.9°. | $1.16 –$1.26 | $1.16 - $1.26 | $1.16 –$1.26 |
| Diesel fuel oil, under 23.9°. | $1.06 –$1.10 | $1.06 –$1.10 | $1.06 –$1.10 |
| 30-34 gas oil | $1.30 –$1.35 | $1.30 –$1.35 | $1.30 –$1.35 |
| Grade C fuel oil | $0.85 –$0.90 | $0.85 –$0.90 | $0.85 –$0.95 |

| Pacific Export (cont'd) | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| *In Ships' Bunkers, or deep tank lots*, per barrel: | | | |
| Diesel fuel oil, above 23.9 gravity | $1.25 –$1.35 | $1.25 –$1.35 | $1.25 –$1.35 |
| Diesel, under 23.9 gravity | $1.20 –$1.25 | $1.20 –$1.25 | $1.20 –$1.25 |
| Grade C fuel oil | $0.90 –$0.95 | $0.90 –$0.95 | $0.90 –$0.95 |
| *Cased Goods:* | | | |
| Gasoline, U. S. Motor | $1.35 –$1.50 | $1.35 –$1.50 | $1.35 –$1.50 |
| Gasoline, 400 e.p. blend | $1.45 –$1.65 | $1.45 –$1.65 | $1.45 –$1.65 |
| 38-40 w.w. kerosine, 150 fire point | $1.20 –$1.35 | $1.20 –$1.35 | $1.20 –$1.35 |
| Kerosine, prime white | $1.15 –$1.25 | $1.15 –$1.25 | $1.15 –$1.25 |

## New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

**CYLINDER OILS (Pennsylvania Products)**

| | | | |
|---|---|---|---|
| *Bright stock:* | | | |
| Light, 25 pour test | 32.00 | 31.50 –32.00 | 30.50 |
| Dark, 25 pour test | 31.50 | 31.00 –31.50 | 30.00 |
| *Neutral oil:* | | | |
| 200 3 color, 25 pour test | 31.50 | 31.00 –31.50 | 30.00 |
| 150 3 color, 25 pour test | 27.50 | 27.00 –27.50 | 26.50 |
| 600 Warren E filtered | 26.00 | 26.00 | 24.50 –25.00 |
| 600 stm. rfd., unfiltered | 24.00 | 24.00 | 22.50 –23.00 |
| 650 stm. rfd., unfiltered | 25.50 | 25.00 | 24.00 |
| 600 flash, steam refined | 26.50 | 26.00 | 24.50 –25.00 |
| 630 flash, steam refined | 30.50 | 27.50 –28.00 | 26.00 –26.50 |

## Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk. Scale solid and fully refined slabs in bags.)

| | New York | | New Orleans | |
|---|---|---|---|---|
| Prices March 22 | Domestic | Export | Domestic | Export |
| 124-6 Y.C. scale | 2.60 – 2.65 | 2.60 – 2.65 | †2.65 | †2.65 |
| 122-4 W.C. scale | 2.65 – 2.70 | 2.65 – 2.70 | †2.70 | †2.70 |
| 124-6 W.C. scale | 2.65 – 2.70 | 2.65 – 2.70 | †2.70 | †2.70 |
| 123-5 Fully refined | 4.45 | 4.125 | 4.45 | 4.125 |
| 125-7 Fully refined | 4.55 | 4.25 | 4.55 | 4.25 |
| 128-30 Fully refined | 4.80 | 4.50 | 4.80 | 4.50 |
| 130-2 Fully refined | 5.05 | 4.75 | 5.05 | 4.75 |
| 133-5 Fully refined | *5.35 | 5.25 | *5.35 | 5.25 |
| 135-7 Fully refined | *5.60 | 5.50 | .... | .... |

*Shipment either in bags or in bulk.

†Nominal.

## Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing opinions of majority of traders, except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

**MOTOR GASOLINE**

For Domestic Shipment

| Prices — | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| 59 octane and below | 5.75 | 5.75 | 5.75 |
| 60-64 octane number | 5.875– 6.00 | 5.875– 6.00 | 5.875– 6.00 |
| 65 octane and above | 6.125– 6.25 | 6.125– 6.25 | 6.125– 6.25 |
| **FUEL OILS** | | | |
| No. 1 Fuel oil | 5.00 | 5.00 – 5.125 | 5.125 |
| No. 2 Fuel oil | 3.875 | 3.875– 4.00 | 4.00 |
| No. 4 Fuel oil | 3.75 | 3.75 | 3.75 |
| **KEROSINE** | | | |
| 41-43 w.w. | 5.00 | 5.00 – 5.125 | 5.125 |
| **GASOLINE** | | | |
| For Export Shipment | | | |
| U. S. Motor gasoline | 5.75 | 5.75 | 5.625– 5.75 |
| 60-62, 400 e.p. gasoline | 5.875 | 5.875 | 5.75 – 5.875 |
| 61-63, 390 e.p. gasoline | 6.00 | 6.00 | 5.875– 6.00 |
| 64-66, 375 e.p. gasoline | 6.125 | 6.125 | 6.00 |
| **KEROSINE** | | | |
| 44 water white | 5.25 | 5.25 – 5.375 | 5.375 |
| 41-43 water white | 5.00 | 5.00 – 5.125 | 5.125 |
| 41-43 prime white | 5.00 | 5.00 | 5.00 |

*Nominal.

*(Continued on next page)*

# SEABOARD MARKETS, EXPORT AND COASTWISE

*Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons*

(Continued from preceding page)

| Prices— | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| **GAS AND BUNKER OILS** | | | |
| For Domestic and/or Export Shipment | | | |
| *26-30 translucent gas oil | 3.75 | 3.75 | 3.75 – 3.875 |
| *30 plus translucent gas oil | 3.875 | 3.875 | 3.9375–4.00 |
| *30 plus transp. gas oil | 3.875 | 3.875– 4.00 | 4.00 |
| Diesel Oil Ship's bunkers | $1.65 | $1.65 | $1.65 |
| Grade C bunker oil, for ship's bunkers, per bbl. | †$1.00 | †$1.00 | †$1.00 |
| Grade C bunker oil, per bbl. in cargoes | $0.90 –$0.95 | $0.90 –$0.95 | $0.95 |

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional.

**MEXICAN CRUDE AND BUNKER OILS**

**(F.o.b. Steamer, Tampico)**

| | | | |
|---|---|---|---|
| Heavy Panuco crude, taxes to be paid, per bbl. | $1.15 –$1.20 | $1.15 –$1.20 | $1.15 –$1.20 |
| Grade C bunker oil, ship's bunkers, taxes paid, per bbl. | $1.00 | $1.00 | $1.00 |

**MID-CONTINENT LUBRICATING OILS**

(Prices in cents per gallon in bbls. f.a.s. Gulf oil terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

| | | | |
|---|---|---|---|
| 190-200 vis. D 210 bright stock | 27.50 | 27.50 | 27.00 |
| 150-160 vis. D 210 bright stock: | | | |
| 0-10 pour point | 24.50 | 24.50 | 24.00 |
| 10-25 pour point | 24.00 | 24.00 | 23.50 |
| 25-40 pour point | 23.50 | 23.50 | 23.00 |
| 150-160 vis. E 210 brt. stock | 23.50 | 23.50 | 23.00 |
| 120 vis. D 210 bright stock | 23.00 | 23.00 | 22.50 |
| 180 vis. No. 3 color neutral Oil: | | | |
| 0-10 pour point | 17.00 | 17.00 | 17.00 |
| 15-30 pour point | 16.50 | 16.50 | 16.50 |
| 200 vis. No. 3 color neutral Oil: | | | |
| 0-10 pour point | 17.50 | 17.50 | 17.50 |
| 15-30 pour point | 17.00 | 17.00 | 17.00 |
| 600 s.r. olive green | 12.25 | 12.25 | 12.25 |
| 600 s.r. dark green | 11.00 | 11.00 | 11.00 |
| 631 s.r. | 21.50 | 21.00 | 20.50 |

| Prices— | Mar. 22 | Mar. 15 | Mar. 8 |
|---|---|---|---|
| **SOUTH TEXAS LUBRICATING OILS** | | | |
| (Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment) | | | |
| *Unfilterable Pale Oils:* | | | |
| **Vis. Color** | | | |
| 100 No. 3 | 5.25 – 5.50 | 5.25 – 5.50 | 5.00 – 5.25 |
| 200 No. 3 | 6.00 – 6.50 | 6.00 – 6.50 | 6.00 – 6.50 |
| 300 No. 3 | 6.50 – 7.00 | 6.50 – 7.00 | 6.50 – 7.00 |
| 500 No. 3½ | 7.625– 7.875 | 7.625– 7.875 | 7.50 – 7.875 |
| 750 No. 4 | 8.75 – 9.00 | 8.75 – 9.00 | 8.75 – 9.00 |
| 1200 No. 4 | 9.50 – 9.75 | 9.50 – 9.75 | 9.00 – 9.25 |
| 2000 No. 4 | 10.00 –10.125 | 10.00 –10.125 | 9.75 –10.00 |
| *Red Oils:* | | | |
| **Vis. Color** | | | |
| 100 No. 5-6 | 5.00 – 5.25 | 5.00 – 5.25 | 5.00 – 5.25 |
| 200 No. 5-6 | 5.875– 6.50 | 5.875– 6.50 | 5.875– 6.50 |
| 300 No. 5-6 | 6.25 – 6.75 | 6.25 – 6.75 | 6.25 – 6.75 |
| 500 No. 5-6 | 7.50 – 7.625 | 7.50 – 7.625 | 7.25 – 7.50 |
| 750 No. 5-6 | 8.75 – 9.00 | 8.75 – 9.00 | 8.75 – 9.00 |
| 1200 No. 5-6 | 9.50 | 9.50 | 8.75 – 9.25 |
| 2000 No. 5-6 | 10.00 | 10.00 | 9.75 –10.00 |

**Note:** Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

## Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds. British sterling; to U. S. ports cents per barrel)

| Rates—March 22 | Crude &/or Fuel Last Paid | Crude &/or Fuel Owners Ask | Refined Oil &/or Spirits Last Paid | Refined Oil &/or Spirits Owners Ask |
|---|---|---|---|---|
| Gulf-U.K./Cont.* | 35/ | 34/-36/ | 32/ | 34/-36/ |
| Aruba-U.K./Cont.* | 28/ | 30/-32/ | 32/ | 31/-33/ |
| Gulf-N. Atlantic** (not E. of N. Y.): | | | | |
| Heavy Crude & Fuel, (10 to 19.9 gravity) | 47c | 47c | .... | .... |
| Light Crude, (30 gravity or lighter) | 42c | 42c-43c | .... | .... |
| Gasoline | .... | .... | 34c | 36-37c |
| Kerosine | .... | .... | 35c | 37c |
| Light Fuel | .... | .... | 36c | 38c |

**Note:** Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezuela loading same rate; Tampico 2c to 3c per bbl. additional.

## Chicago

(Continued from page 34)

on March 19. Occasional offerings of extremely low octane material at shaded prices were encountered, but as the market for acceptable third grade material advanced, prices for this gasoline followed.

Chicago sellers generally limited their sales of 68-70 U. S. Motor gasoline to regular customers last week, and for this reason the inquiry for 100 cars was not filled, and remained in the market March 20.

Prices for unleaded 68-70 octane gasoline were 0.25 cent higher March 19 than they were March 12.

Kerosine was shoved into the background as interest in gasoline picked up. Prices, however, were steady. Offerings were in good balance with open market sales, and while occasional price shading was encountered, virtually all sellers held to a minimum of 4.125 cents for 41-43 water white.

### Vinson Named Distributor

TULSA, March 22.—Vinson Supply Co. has been appointed distributor here for Tube-Turns, Inc., of Louisville, Ky. Vinson Supply will carry a stock at Tulsa of Tube-Turn welding fittings and forged steel flanges as well as a line of Tube-Turns.

### Panama Canal Shipments

WASHINGTON, March 22.—Petroleum cargoes through the Panama Canal in both directions increased in 1936 over the previous year, according to reports of officials at the Canal Zone.

Total weight of petroleum and petroleum products passing through the canal from the Pacific to the Atlantic in 1936 was 3,499,857 long tons, compared with 3,446,200 long tons in 1935. In the other direction, 709,962 long tons passed through in 1936 and 628,404 in 1935. One long ton equals approximately 7.5 barrels.

### Pa. Refinery Lubricating Oil Inventory

*(Issued as of Mar. 18 by National Petroleum Assoc.)*

| | | Gallons |
|---|---|---|
| 1. | **Raw Long Residuum** (Includes all raw long residuum below, and not salable, as 600 fire) | 1,287,075 |
| 2. | **600 Steam Refined** (Includes all steam refined stock commonly sold or used as 600 and as raw material for bright stock) | 6,195,758 |
| 3. | **Other Steam Refined** (Not included in 1 and 2 above) | 2,935,826 |
| 4. | **Finished Dewaxed Long Res.** | 3,221,692 |
| 5. | **Bright Stock** (Does not include any material reported in 4 above) | 16,247,596 |
| 6. | **Viscous Neutral,** below 180 vis. but not below 142 vis. @ 100 | 6,250,826 |
| 7. | **Viscous Neutral,** 180 vis. @ 100 and above | 4,976,333 |

PITTSBURGH, March 22.—A lime extraction plant for the removal of hydrogen sulfide from 5,000,000 cubic feet natural gas per day in a plant near Tillsonburg, Ontario, has been completed by Burrell-Mase Engineering Co. for the Oxford Pipe Line Co. Sulfide is reduced from 480 grains per 100 cubic feet to less than one grain, according to officials.

### Chemists Discuss "Asphalt Emulsions" At El Dorado

SHREVEPORT, March 22.—"Asphaltic Emulsions" will be discussed before the Ark-La-Tex section of the Western Petroleum Refiners Association at its regular April meeting in El Dorado, Ark., April 9. The main paper will be presented by R. M. Heine, chief chemist of L. R. MacKenzie Co., and will be followed by a round-table discussion.

WASHINGTON—Production of crude petroleum outranked that of any other mineral or any manufacture in the business index of the board of governors of the Federal Reserve System for January.

Based on the index numbers for 1923-1925 as 100, the January index number for crude oil production was 166. Next high number in the manufacturing and minerals group was that for tobacco manufactures—165. Iron and steel manufactures stood at 139, leather and shoes at 137, textiles at 124 and automobiles at 120.

# CRUDE OIL MARKETS

*Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given*

## EASTERN FIELDS

***Posted by Joseph Seep Purchasing Agency***

(Effective Feb. 24, 1937, except Corning Jan. 29, 1937)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$2.42
Penna. Grade Oil in Eureka Pipe Lines (West Virginia).....$2.37
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....$2.22
Corning Oil in Buckeye Pipe Lines (Ohio)...$1.42

***Posted by Other Companies***

Tide Water Pipe Co., Ltd.
Bradford-Allegany district (Penna. and N. Y.) (Effective Feb. 24, 1937).....$2.67
*The Pennzoil Co.: (Effective Feb. 24, 1937)
Penna. Grade Oil in National Transit Lines*$2.67
Ashland Oil & Transportation Co.:
Somerset Oil in Ashland Lines (Ky.): (Effective Jan. 28, 1937)
Big Sandy River.....$1.42
Kentucky River.....$1.50

*The Pennzoil Co. posts $2.67 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.62 per bbl. at well.

## MICHIGAN

***Posted by Pure Oil Co.***

Midland, Midland County (Jan. 29, 1937)...$1.42

***Posted by Simrall Pipe Line Corp.***

(Effective Jan. 29, 1937)

West Branch, Arenac, and equal grades.....$1.26
Beaverton, Crystal, Greendale, Porter and equal grades.....$1.42

(Effective March 16, 1937)

Buckeye.....$1.395

## CENTRAL STATES FIELDS

***Posted by Ohio Oil Co.***

(Effective Jan. 28, 1937)

Illinois, Princeton.....$1.35
Lima.....$1.25
Owensboro (Western Ky.).....$1.40

***Posted by Stoll Oil Refining Co.***

(Effective Feb. 1, 1937)

Stoll Pipe Line Oil (Ky.).....$1.40

## CANADIAN FIELDS

***Posted by Imperial Oil Limited***

*Western Ontario*

(Effective Sept. 9, 1933)

Petrolia.....$2.10
Oil Springs.....$2.17

*Alberta—Turner Valley*

(Prices f.o.b. field tankage)

(Effective Dec. 16, 1936)

Clear Naphtha.....$2.60

Crude Oil & Discolored Naphtha

| | | | |
|---|---|---|---|
| 40-40.9° | $1.55 | 53-53.9 | $1.94 |
| 41-41.9 | 1.58 | 54-54.9 | 1.97 |
| 42-42.9 | 1.61 | 55-55.9 | 2.00 |
| 43-43.9 | 1.64 | 56-56.9 | 2.03 |
| 44-44.9 | 1.67 | 57-57.9 | 2.06 |
| 45-45.9 | 1.70 | 58-58.9 | 2.09 |
| 46-46.9 | 1.73 | 59-59.9 | 2.12 |
| 47-47.9 | 1.76 | 60-60.9 | 2.15 |
| 48-48.9 | 1.79 | 61-61.9 | 2.18 |
| 49-49.9 | 1.82 | 62-62.9 | 2.21 |
| 50-50.9 | 1.85 | 63-63.9 | 2.24 |
| 51-51.9 | 1.88 | 64-64.9 | 2.27 |
| 52-52.9 | 1.91 | 65° & higher, for discolored naphtha only | 2.36 |

**Note:** Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

## MID-CONTINENT

***Posted by Stanolind Crude Oil Purchasing Co., Jan. 28, 1937***

| | (In Oklahoma-Kansas) | (In North-North Central Texas) |
|---|---|---|
| Below 29 | $1.06 | $0.96 |
| 29-29.9 | 1.08 | 0.98 |
| 30-30.9 | 1.10 | 1.00 |
| 31-31.9 | 1.12 | 1.02 |
| 32-32.9 | 1.14 | 1.04 |
| 33-33.9 | 1.16 | 1.06 |
| 34-34.9 | 1.18 | 1.08 |
| 35-35.9 | 1.20 | 1.10 |
| 36-36.9 | 1.22 | 1.12 |
| 37-37.9 | 1.24 | 1.14 |
| 38-38.9 | 1.26 | 1.16 |
| 39-39.9 | 1.28 | 1.18 |
| 40 & above | 1.30 | 1.20 |

Above Stanolind prices met as follows:

Jan. 28, Continental Oil Co. met in Okla., Kans., and North Texas. Sinclair-Prairie met in North Texas and North Central Texas, Jan. 28, Stanolind's North Texas schedule. Same date, The Texas Co. met in North-North Central Texas.

**Note:** Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content.

***Posted by Carter Oil Co.***

*In Oklahoma*

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 25 | $0.98 | 33-33.9 | $1.16 |
| 25-25.9 | 1.00 | 34-34.9 | 1.18 |
| 26-26.9 | 1.02 | 35-35.9 | 1.20 |
| 27-27.9 | 1.04 | 36-36.9 | 1.22 |
| 28-28.9 | 1.06 | 37-37.9 | 1.24 |
| 29-29.9 | 1.08 | 38-38.9 | 1.26 |
| 30-30.9 | 1.10 | 39-39.9 | 1.28 |
| 31-31.9 | 1.12 | 40 and above | 1.30 |
| 32-32.9 | 1.14 | | |

Above Carter schedule met Jan. 28 by the following companies: Sinclair-Prairie, Shell and Barnsdall in Oklahoma-Kansas; Skelly Oil in Kansas; Tide Water in Oklahoma; Pure Oil in Oklahoma-Kansas, beginning with below 24 at $0.98 and ending with 40 & above at $1.30.

***Posted by Magnolia Petroleum Co.***

(Effective Jan. 28, 1937)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.98 and ending with 40 & above, at $1.30.

In Texas: North and North Central, including Burkburnett, Archer, Henrietta, Electra, Comanche and Olden, same gravity and price schedule as Stanolind in North Texas, which see under Stanolind, beginning with below 29 at $0.96 and ending with 40 and above, at $1.20.

***Posted by Humble Oil & Refining Co.***

## TEXAS FIELDS

(*West Central Texas)

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 29 | $0.96 | 35-35.9 | $1.10 |
| 29-29.9 | 0.98 | 36-36.9 | 1.12 |
| 30-30.9 | 1.00 | 37-37.9 | 1.14 |
| 31-31.9 | 1.02 | 38-38.9 | 1.16 |
| 32-32.9 | 1.04 | 39-39.9 | 1.18 |
| 33-33.9 | 1.06 | 40 and above | 1.20 |
| 34-34.9 | 1.08 | | |

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., effective Jan. 28, posts Humble's above schedule on Fisher county crude, plus these five lower grades, beginning with below 25 gravity at $0.88; 25-25.9, $0.90; 26-26.9, $0.92; 27-27.9, $0.94, and 28-28.9, $0.96; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*East Central Texas

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 29 | $1.03 | 35-35.9 | $1.17 |
| 29-29.9 | 1.05 | 36-36.9 | 1.19 |
| 30-30.9 | 1.07 | 37-37.9 | 1.21 |
| 31-31.9 | 1.09 | 38-38.9 | 1.23 |
| 32-32.9 | 1.11 | 39-39.9 | 1.25 |
| 33-33.9 | 1.13 | 40 and above | 1.27 |
| 34-34.9 | 1.15 | | |

*Including Anderson, Cherokee, Limestone, Navarro counties.

Same date, Sinclair-Prairie met in Mexia Humble's above schedule.

## PANHANDLE TEXAS

***Posted by Humble Oil & Refining Co.***

(Effective Jan. 28, 1937)

| | Gray County | Carson-Hutchinson |
|---|---|---|
| Below 35 | $0.96 | $0.91 |
| 35-35.9 | 0.98 | 0.93 |
| 36-36.9 | 1.00 | 0.95 |
| 37-37.9 | 1.02 | 0.97 |
| 38-38.9 | 1.04 | 0.99 |
| 39-39.9 | 1.06 | 1.01 |
| 40 & above | 1.08 | 1.03 |

Jan. 28, above prices met by Sinclair-Prairie and Magnolia in the entire area and by Continental in Carson-Hutchinson and by Texas Co. in Panhandle Sweet, same as Humble's Gray Co. and on Panhandle Sour, same as Carson-Hutchinson.

## EAST TEXAS

(Effective Jan. 28, 1937)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas Co., and Magnolia.....$1.27

Shell also posted on Jan. 28, in Livingston area, Polk County, Texas, $1.27.

## NORTHEAST TEXAS

**(Posted by Humble, Jan. 28, 1937)**

Talco.....$0.73

**(Posted by Magnolia, Jan. 28, 1937)**

Cass County and Panola County, Tex:
Same gravity and price schedule as S. O. Louisiana posts for Rodessa, La., which see under that company.

***(Posted by The Texas Co., Jan. 28, 1937)***

Cass County.....$1.25

## WEST TEXAS AND NEW MEXICO

***Posted by Humble Oil & Refining Co.***

(Effective Jan. 28, 1937)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas and Lea county, New Mexico).

| | | | |
|---|---|---|---|
| Below 26 | $0.78 | 33-33.9 | $0.94 |
| 26-26.9 | 0.80 | 34-34.9 | 0.96 |
| 27-27.9 | 0.82 | 35-35.9 | 0.98 |
| 28-28.9 | 0.84 | 36-36.9 | 1.00 |
| 29-29.9 | 0.86 | 37-37.9 | 1.02 |
| 30-30.9 | 0.88 | 38-38.9 | 1.04 |
| 31-31.9 | 0.90 | 39-39.9 | 1.06 |
| 32-32.9 | 0.92 | 40 & above | 1.08 |
| Pecos, West Texas | | | $0.91 |

Jan. 28, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winker.

Shell Petroleum Corp., on Jan. 28, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 28, Shell posted in Yates shallow pool in Pecos county, Tex., $0.81.

Jan. 28, Stanolind Oil & Gas Co. met Humble in Hendrick field, Winkler county.

Jan. 28, Texas Co. met Humble in Ward and Winkler counties, Tex., and Lea County, N. M.

***Posted by Continental Oil Co.***

(Effective Jan. 28, 1937)

Artesia, Jackson and Maljamar pools, N. M...$0.90

## COLORADO

**(Posted by Continental Oil Co., Effective Jan. 28, 1937)**

| | Ft. Collins and Wellington | | |
|---|---|---|---|
| Below 29 | $1.01 | 35-35.9 | $1.15 |
| 29-29.9 | 1.03 | 36-36.9 | 1.17 |
| 30-30.9 | 1.05 | 37-37.9 | 1.19 |
| 31-31.9 | 1.07 | 38-38.9 | 1.21 |
| 32-32.9 | 1.09 | 39-39.9 | 1.23 |
| 33-33.9 | 1.11 | 40 & above | 1.25 |
| 34-34.9 | 1.13 | | |
| Cannon City and Florence, Col. | | | $1.10 |

## SOUTH AND SOUTHWEST TEXAS

***Posted by Humble Oil & Refining Co.***

(Effective Jan. 28, 1937)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoborocki fields.....$1.09
Pettus.....$1.37 Van Zandt.....$1.10

(Effective Nov. 1, 1936)

Heyser heavy...$0.90 Placedo heavy..$0.90
Heyser light.....1.15 Taft.....0.95

Shell Pet. Corp. on Jan. 28, posted $1.09 in Salt Flat district, Tex.

Anahuac, Dickinson, Flour Bluff and Turtlebay

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 31 | $1.16 | 36-36.9 | $1.28 |
| 31-31.9 | 1.18 | 37-37.9 | 1.30 |
| 32-32.9 | 1.20 | 38-38.9 | 1.32 |
| 33-33.9 | 1.22 | 39-39.9 | 1.34 |
| 34-34.9 | 1.24 | 40 and above | 1.36 |
| 35-35.9 | 1.26 | | |

Jan. 28, Magnolia met Humble in Darst Creek; posted $1.00 in Luling; $1.12 in Lytton Springs; $1.27 for Cleveland, Liberty county, Tex.; $1.15 in Hardin, Liberty county, Tex.

Jan. 28, 1937, The Texas Co. met Humble in Darst Creek, and posted $1.00 for Duval county, Tex.

***Posted by Humble***

*Conroe, Raccoon Bend, Tomball and Satsuma*

(Deep sand crudes)

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 29 | $1.20 | 35-35.9 | $1.34 |
| 29-29.9 | 1.22 | 36-36.9 | 1.36 |
| 30-30.9 | 1.24 | 37-37.9 | 1.38 |
| 31-31.9 | 1.26 | 38-38.9 | 1.40 |
| 32-32.9 | 1.28 | 39-39.9 | 1.42 |
| 33-33.9 | 1.30 | 40 & above | 1.44 |
| 34-34.9 | 1.32 | | |

Jan. 28, Magnolia met Humble in Tomball and Texas Co. met Humble in Conroe, beginning with 35-35.9 gravity.

***Posted by Humble***

*Mirando, Heavy and Ligh and Sam Fordyce*

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 21 | $0.90 | 31-31.9 | $1.18 |
| 21-21.9 | 0.93 | 32-32.9 | 1.20 |
| 22-22.9 | 0.96 | 33-33.9 | 1.22 |
| 23-23.9 | 0.99 | 34-34.9 | 1.24 |
| 24-24.9 | 1.02 | 35-35.9 | 1.26 |
| 25-25.9 | 1.05 | 36-36.9 | 1.28 |
| 26-26.9 | 1.08 | 37-37.9 | 1.30 |
| 27-27.9 | 1.10 | 38-38.9 | 1.32 |
| 28-28.9 | 1.12 | 39-39.9 | 1.34 |
| 29-29.9 | 1.14 | 40 & above | 1.36 |
| 30-30.9 | 1.16 | | |

Jan. 28, Magnolia met Humble in Mirando.

*(Continued on next page)*

# CRUDE OIL MARKETS

*(Continued from preceding page)*

### NORTH LOUISIANA-ARKANSAS

***Posted by Standard Oil Co. of Louisiana***

(Effective Jan. 28, 1937)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Sarepta, Carterville, El Dorado, Bunkie, and Miller county).

| | | | |
|---|---|---|---|
| Below 25 | $0.90 | 33-33.9 | $1.08 |
| 25-25.9 | 0.92 | 34-34.9 | 1.10 |
| 26-26.9 | 0.94 | 35-35.9 | 1.12 |
| 27-27.9 | 0.96 | 36-36.9 | 1.14 |
| 28-28.9 | 0.98 | 37-37.9 | 1.16 |
| 29-29.9 | 1.00 | 38-38.9 | 1.18 |
| 30-30.9 | 1.02 | 39-39.9 | 1.20 |
| 31-31.9 | 1.04 | 40 and above | 1.22 |
| 32-32.9 | 1.06 | | |

**Rodessa, La.**

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 25 | $0.93 | 33-33.9 | $1.11 |
| 25-25.9 | 0.95 | 34-34.9 | 1.13 |
| 26-26.9 | 0.97 | 35-35.9 | 1.15 |
| 27-27.9 | 0.99 | 36-36.9 | 1.17 |
| 28-28.9 | 1.01 | 37-37.9 | 1.19 |
| 29-29.9 | 1.03 | 38-38.9 | 1.21 |
| 30-30.9 | 1.05 | 39-39.9 | 1.23 |
| 31-31.9 | 1.07 | 40 and above | 1.25 |
| 32-32.9 | 1.09 | | |

**Choctaw and Darrow**

Jan. 28, 1937, initial posting; same schedule as Humble posts in Mirando, Tex., which see.

Smackover, Ark. ..... $0.90
Urania, La. (La. Oil Refg. Co., Jan. 10, '36) ... 0.97
Tepetate, La. (Continental Oil, Jan. 28, '37) ... 1.24

Jan. 28, 1937, Magnolia met S. O. La.'s No. La.-Ark. gravity and price schedule in Pine Island, Haynesville, Bull Bayou and Cotton Valley, La., and in Eldorado and Rainbow districts, Ark.; and met S. O. La.'s Rodessa prices; and in Lockport, Iowa, Cameron Meadow, La., posted Humble's gravity and price schedule on Mirando.

Jan. 28, The Texas Co. met S. O. La. in N. La., except that its gravity schedule begins with below 27 at $0.94. It posted $1.37 for Garden Island, La., $1.24 for LaFitte, La. and $0.90 for Smackover.

### *GULF COASTAL FIELDS

***Posted by Humble Oil & Refining Co. and The Texas Co.***

(Effective Jan. 28, 1937)

| | Humble | Texas |
|---|---|---|
| Below 18 | $0.95 | $0.90 |
| 18-18.9 | for | 0.92 |
| 19-19.9 | below | 0.94 |
| 20-20.9 | 21° | 0.96 |
| 21-21.9 | 0.98 | 0.98 |
| 22-22.9 | 1.01 | 1.01 |
| 23-23.9 | 1.04 | 1.04 |
| 24-24.9 | 1.07 | 1.07 |
| 25-25.9 | 1.10 | 1.10 |
| 26-26.9 | 1.13 | 1.13 |
| 27-27.9 | 1.15 | 1.15 |
| 28-28.9 | 1.17 | 1.17 |
| 29-29.9 | 1.19 | 1.19 |
| 30-30.9 | 1.21 | 1.21 |
| 31-31.9 | 1.23 | 1.23 |
| 32-32.9 | 1.25 | 1.25 |
| 33-33.9 | 1.27 | 1.27 |
| 34-34.9 | 1.29 | 1.29 |
| 35-35.9 | 1.31 | for |
| 36-36.9 | 1.33 | oil |
| 37-37.9 | 1.35 | 34° |
| 38-38.9 | 1.37 | and |
| 39-39.9 | 1.39 | above. |
| 40 and above | 1.41 | .... |

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Plymouth, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light and heavy, Saxet, Sour Lake, Spindletop, Sugarland and West Columbia.

Jan. 28, Sinclair-Prairie met above Humble schedule in full.

### ROCKY MOUNTAIN FIELDS

***Posted by Stanolind Oil & Gas Co.***

(Effective Jan. 28, 1937)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma, Kansas which see under Mid-Continent crude on previous page.

| | |
|---|---|
| Greybull-Torchlight | $1.30 |
| Iles, light, Col. | 1.18 |
| Iles, heavy | 1.12 |
| Hogback, N. M. | 1.33 |
| Big Muddy | 1.23 |
| Elk Basin, light | 1.30 |
| Grass Creek, light | 1.30 |
| Frannie light | 0.82 |

(Effective Nov. 4, 1936)

| | |
|---|---|
| Grass Creek, heavy | $0.62 |
| Frannie heavy | 0.62 |
| Hamilton Dome, Wyo. | 0.57 |

Pondera, Mont., (Postings discontinued July 1, 1936, but Stanolind pays price posted by Ohio Oil for Kevin-Sunburst, less 20c per bbl.)

***Posted by Ohio Oil Co.***

(Effective Jan. 28, 1937)

| | |
|---|---|
| Elk Basin, Wyo. | $1.30 |
| Grass Creek, light | 1.30 |
| Rock Creek | 1.205 |
| Lance Creek | 0.97 |
| Sunburst, Mont. | 1.20 |

***Posted by *International Refg. Co.***

Cut Bank, Mont.

(Effective Jan. 28, 1937)

| | | | |
|---|---|---|---|
| Below 35° | $1.34 | 38-38.9 | $1.42 |
| 35-35.9 | 1.36 | 39-39.9 | 1.44 |
| 36-36.9 | 1.38 | 40 and above | 1.46 |
| 37-37.9 | 1.40 | | |

*Texas Co. subsidiary.

***Posted by Continental Oil Co.***

(Effective Jan. 28, 1937)

| | |
|---|---|
| Cat Creek, Mont. | $1.40 |
| Big Muddy, Wyo. | 1.18 |
| Lance Creek, Wyo. | 0.97 |

### CALIFORNIA, *Posted by Standard Oil of California*

*All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936, and Elk Hills, effective June 22, 1936*

| Gravity | Signal Hill (Long Beach) | Seal Beach | Alamitos Heights | Huntington Beach | Inglewood | Playa del Rey | Olinda Brea Canon | Athens Rosecrans | Dominguez | Torrance | Richfield | Whittier East Coyote (La Habra) | Montebello | West Coyote Hills | Santa Fe Springs | ‡Newhall and others | Mountain View | Elk Hills | Buena Vista Hills **Midway-Sunset | Lakeview Area | Lost Hills | Coalinga | Wheeler Ridge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-14.9 | $0.80 | 0.79 | 0.74 | 0.78 | 0.79 | 0.80 | 0.76 | .... | .... | 0.80 | 0.76 | 0.76 | 0.77 | 0.78 | .... | 0.70 | .... | 0.70 | 0.70 | 0.65 | 0.70 | 0.70 | .... |
| 15-15.9 | .80 | .79 | .74 | .78 | .79 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 16-16.9 | .80 | .79 | .74 | .78 | .79 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 17-17.9 | .80 | .79 | .74 | .78 | .81 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 18-18.9 | .80 | .79 | .74 | .78 | .84 | .80 | .78 | .... | .... | .82 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 19-19.9 | .82 | .79 | .74 | .82 | .87 | .84 | .81 | .... | .... | .85 | .76 | .78 | .77 | .78 | .... | .70 | .70 | .74 | .74 | .66 | .74 | .71 | .70 |
| 20-20.9 | .85 | .79 | .74 | .85 | .90 | .88 | .84 | .... | .... | .88 | .78 | .82 | .77 | .80 | .... | .... | .70 | .78 | .78 | .68 | .78 | .72 | .70 |
| 21-21.9 | .88 | .79 | .74 | .89 | .93 | .93 | .88 | .... | .... | .91 | .80 | .85 | .77 | .84 | .78 | .... | .73 | .82 | .82 | .71 | .82 | .74 | .70 |
| 22-22.9 | .92 | .82 | .74 | .92 | .96 | .98 | .92 | .... | .... | .93 | .84 | .89 | .79 | .88 | .78 | .... | .77 | .87 | .87 | .74 | .86 | .78 | .72 |
| 23-23.9 | .95 | .86 | .77 | .96 | .99 | 1.02 | .96 | .84 | .79 | .96 | .88 | .93 | .82 | .92 | .78 | .... | .80 | .92 | .92 | .77 | .90 | .82 | .76 |
| 24-24.9 | .99 | .91 | .80 | 1.00 | 1.02 | 1.06 | .99 | .88 | .81 | .99 | .91 | .96 | .85 | .96 | .82 | .... | .84 | .97 | .97 | .80 | .94 | .86 | .79 |
| 25-25.9 | 1.03 | .95 | .82 | 1.03 | 1.05 | 1.11 | 1.03 | .93 | .83 | 1.02 | .95 | .... | .89 | .99 | .86 | .... | .88 | 1.01 | 1.01 | .83 | .98 | .90 | .83 |
| 26-26.9 | 1.06 | 1.00 | .85 | 1.07 | 1.09 | 1.16 | 1.06 | .98 | .86 | 1.05 | .98 | .... | .92 | 1.03 | .90 | .... | .91 | 1.06 | 1.06 | .86 | 1.02 | .... | .... |
| 27-27.9 | 1.10 | 1.05 | .88 | 1.11 | 1.12 | .... | 1.10 | 1.03 | .88 | .... | 1.02 | .... | .96 | 1.06 | .95 | .... | .95 | 1.10 | 1.10 | .88 | 1.06 | .... | .... |
| 28-28.9 | 1.14 | 1.10 | .90 | 1.14 | 1.15 | .... | 1.14 | 1.07 | .90 | .... | 1.06 | .... | .99 | 1.10 | .99 | .... | .99 | 1.15 | 1.15 | .91 | 1.10 | .... | .... |
| 29-29.9 | 1.17 | 1.15 | .93 | 1.18 | 1.18 | .... | 1.17 | 1.12 | .93 | .... | 1.09 | .... | 1.03 | 1.14 | 1.03 | .... | 1.02 | 1.20 | 1.20 | .94 | 1.14 | .... | .... |
| 30-30.9 | 1.21 | 1.19 | .95 | 1.22 | 1.21 | .... | 1.21 | 1.17 | .95 | .... | .... | .... | 1.07 | 1.17 | 1.08 | .... | 1.06 | 1.25 | 1.25 | .97 | 1.18 | .... | .... |
| 31-31.9 | | | | | 1.24 | | 1.24 | 1.22 | .97 | .... | .... | .... | 1.11 | 1.21 | 1.12 | .... | 1.09 | 1.29 | 1.29 | .99 | | | |
| 32-32.9 | *Elwood Terrace | | | .... | 1.27 | | 1.27 | 1.27 | 1.00 | .... | .... | .... | 1.14 | 1.25 | 1.16 | .... | 1.13 | 1.34 | 1.34 | 1.02 | Kettleman Hills | | |
| 33-33.9 | .... | 1.28 | .... | .... | .... | | .... | 1.32 | .... | .... | .... | .... | 1.18 | 1.28 | 1.20 | .... | 1.17 | 1.38 | 1.38 | 1.04 | .... | 1.19 | .... |
| 34-34.9 | .... | 1.32 | .... | .... | .... | | .... | 1.37 | .... | .... | .... | .... | 1.22 | 1.32 | 1.25 | .... | 1.20 | .... | .... | .... | .... | 1.23 | .... |
| 35-35.9 | .... | 1.35 | .... | .... | .... | | .... | 1.42 | .... | .... | .... | .... | 1.25 | .... | 1.29 | .... | .... | .... | .... | .... | .... | 1.27 | .... |
| 36-36.9 | .... | 1.39 | .... | .... | .... | | .... | 1.46 | .... | .... | .... | .... | 1.29 | .... | 1.33 | .... | .... | .... | .... | .... | .... | 1.31 | .... |
| 37-37.9 | .... | 1.43 | .... | .... | .... | | .... | 1.51 | .... | .... | .... | .... | 1.32 | .... | 1.37 | .... | .... | .... | .... | .... | .... | 1.35 | .... |
| 38-38.9 | .... | .... | .... | .... | .... | | .... | 1.56 | .... | .... | .... | .... | 1.36 | .... | 1.42 | .... | .... | .... | .... | .... | .... | 1.39 | .... |
| 39-39.9 | .... | .... | .... | .... | .... | | .... | 1.61 | .... | .... | .... | .... | 1.40 | .... | .... | .... | .... | .... | .... | .... | .... | 1.43 | .... |
| 40-40.9 | .... | .... | .... | .... | .... | | .... | 1.66 | .... | .... | .... | .... | 1.43 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

F.O.B. Standard Pipe Line

*F. o. b. ship.
‡Also McKittrick, Kern River, Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted. **Except Lakeview Area.

# TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

| 1936 High | 1936 Low | 1937 High | 1937 Low | Listed Shares | Par Value | Company | Current Dividend | Last Div. Paid | Transactions Week Ended Mar. 20, 1937 Sales Shares | High | Low | Last | Week's Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125½ | 75 | 114⅞ | 101 | 788,675 | N.P. | Amerada Corp. | 50cQ | Jan. 30, 37 | 2,600 | 113 | 105¼ | 107 | — 6½ |
| 35⅛ | 26⅝ | 37 | 30⅛ | 2,664,901 | $25 | Atlantic Refining Co. | 25c | Mar. 15, 37 | 14,800 | 35⅝ | 32⅞ | 33⅜ | — 2⅛ |
| 118½ | 109 | 116½ | 111 | 148,000 | $100 | do pfd. A | $1.00 | Feb. 1, 37 | 500 | 112½ | †111 | 112½ | — 1 |
| 28⅜ | 13¼ | 43⅜ | 35⅞ | 390,223 | $10 | Barber Co., Inc. | 50c | Dec. 20, 36 | 16,300 | 42⅝ | 39¼ | 39⅜ | — 1⅝ |
| 28¼ | 14⅛ | 35¼ | 26⅛ | 2,247,974 | 5 | Barnsdall Corp. | 25c | Feb. 1, 37 | 15,600 | 32¾ | 31 | 31 | — 1¼ |
| 30 | 8¼ | 37 | 26 | 1,444,970 | N.P. | Colonial Beacon Oil Co. | .... | ..... | 20 | 34⅞ | 32 | 32 | — 3 |
| 17¼ | 11½ | 17¾ | 15⅞ | 13,983,287 | N.P. | Consolidated Oil Corp. | 20c | Feb. 15, 36 | 70,400 | 17½ | 16¼ | 16¼ | — 1 |
| 106½ | 101 | 105⅞ | 105½ | 132,771 | N.P. | do pfd | $1.25 | Mar. 1, 37 | 100 | 105½ | †105½ | 105½ | — ¼ |
| 44⅞ | 28⅛ | 45½ | 41 | 4,682,662 | $5 | Continental Oil Co. | 25c | Dec. 15, 36 | 16,600 | 44½ | †41 | 41¼ | — 3¼ |
| 13⅞ | 6⅜ | 17⅝ | 12⅛ | 1,098,618 | 25 | Houston Oil Co. v.t.c. | .... | ..... | 17,900 | 15⅞ | 14½ | 14⅝ | — 1 |
| 15⅛ | 4⅛ | 22¼ | 12¾ | 1,207,132 | 10 | Indian Refining Co. | .... | ..... | 1,200 | 18 | 17 | 17 | — 1⅜ |
| 51½ | 13 | 35¾ | 28 | 40,000 | 100 | Louisiana Oil Refining Corp. pfd. | .... | ..... | ..... | ..... | ..... | ..... | ..... |
| 6¾ | 2¼ | 6¾ | 4¾ | 305,000 | $1 | Maracaibo Oil Exploration Co. | .... | ..... | 10,700 | 5⅜ | 5 | 5 | — ⅜ |
| 30⅞ | 17¼ | 35⅝ | 29¼ | 1,855,912 | $10 | Mid-Continent Pet. Corp. | 75c | Dec. 1, 36 | 11,400 | 34⅜ | 31⅞ | 32 | — 2⅜ |
| 29⅞ | 16¾ | 33 | 26⅞ | 1,399,345 | N.P. | Mission Corp. | 45c | Dec. 18, 36 | 4,700 | 32½ | 29 | 29 | — 1⅞ |
| 18 | 12⅛ | 22½ | 17⅛ | 6,563,377 | N.P. | Ohio Oil Co. | 35c | Dec. 15, 36 | 56,700 | 22½ | 20¼ | 20⅜ | — 2⅛ |
| 23½ | 11¾ | 29 | 22¼ | 1,000,000 | N.P. | Pacific Western Oil Corp. | 65c | Dec. 18, 36 | 2,700 | 28⅛ | 26½ | 26½ | — 1½ |
| 20⅝ | 12¼ | 17⅛ | 14 | 4,699,885 | $5 | Pan Amer. Pet. & Transp. Co. | 60c | Dec. 21, 36 | 100 | 14 | †14 | 14 | — ¾ |
| 4¼ | 1⅜ | 4½ | 2¾ | 199,370 | N.P. | Panhandle Prod. & Ref'g. Co. | .... | ..... | 60 | 3⅞ | 3¼ | 3⅜ | + ⅛ |
| 74½ | 18½ | 88¼ | 60 | 17,994 | $100 | do pfd | ..... | ..... | 360 | 79¾ | 72 | 72½ | + ½ |
| 18¼ | 12⅜ | 21⅝ | 17¼ | 2,153,444 | 5 | Petroleum Corp. of America | 40c | Dec. 24, 36 | 6,400 | 20½ | 19⅜ | 19⅜ | — 1¼ |
| 52⅜ | 38⅛ | 58½ | 49½ | 4,152,836 | N.P. | Phillips Petroleum Co. | 50c | Mar. 1, 37 | 18,900 | 57¾ | 54¼ | 55 | — 2 |
| 18¼ | 8 | 20⅜ | 16⅜ | 150,000 | 100 | Pierce Oil Corp. 8% cum. pfd. | .... | ..... | 5,800 | 20⅜ | 18 | 18½ | — 1¼ |
| 3⅝ | 1½ | 4⅛ | 3⅛ | 2,500,000 | N.P. | Pierce Petroleum Corp. | ..... | ..... | 180,000 | 1½ | 1¼ | 1½ | + ¼ |
| 27¾ | 11⅞ | 27⅝ | 24⅝ | 1,050,000 | $5 | Plymouth Oil | 25c | Dec. 22, 36 | 20,100 | 26¾ | 24¾ | 25 | — ⅜ |
| 24⅞ | 16 | 24⅝ | 19¾ | 3,038,370 | N.P. | Pure Oil Co. | ..... | ..... | 36,100 | 22⅛ | 20½ | 20½ | — 1⅜ |
| 118 | 91¼ | 107 | 99 | 167,640 | $100 | do 6% pfd | $1.50 | Jan. 1, 37 | 300 | 105 | 104 | 104 | — ½ |
| 133¾ | 103 | 112¾ | 108 | 130,000 | 100 | do 8% pfd | $2.00 | Jan. 1, 37 | 380 | 110½ | 110 | 110½ | + ⅜ |
| 18¾ | 17 | 18⅞ | 16⅞ | 927,305 | 10 | Quaker State Oil & Refg. | 20c | Mar. 15, 37 | 600 | 17½ | †16⅞ | 16⅞ | — ½ |
| 44 | 30½ | 48½ | 41 | 1,244,383 | N.P. | Seaboard Oil of Del. | 25c | Dec. 15, 36 | 11,300 | 48½ | 44⅞ | 47½ | + ¾ |
| 28¼ | 14¾ | 34¾ | 26⅞ | 13,070,625 | N.P. | Shell Union Oil Corp. | 25c | Dec. 15, 36 | 6,500 | 33⅛ | 30⅞ | 31¼ | — 1⅞ |
| 127½ | 102 | 105¾ | 102 | 400,000 | $100 | do pfd. w.w. | $1.37½ | Jan. 1, 37 | 1,600 | 103¾ | †102 | 102 | — 1¼ |
| 6¾ | 3½ | 4½ | 3½ | 461,000 | 10 | Simms Petroleum Co. | **$1.00 | Jan. 9, 37 | 2,000 | 4 | 3¾ | 4 | + ¼ |
| 47⅜ | 19½ | 52⅜ | 42 | 1,008,549 | 15 | Skelly Oil Co. | ..... | ..... | 5,800 | 51¾ | 48⅜ | 49½ | — 1⅜ |
| 132 | 97⅜ | 102¼ | 99 | 120,000 | 100 | do pfd | $1.50 | Feb. 1, 37 | 800 | 101¼ | 100⅛ | 100⅛ | — ⅞ |
| 17½ | 12½ | 19½ | 16¼ | 31,151,075 | 15 | Socony Vacuum Oil Co. | 25c | Mar. 15, 37 | 72,500 | 19 | 18¼ | 18⅝ | — ⅜ |
| 47⅝ | 35 | 50 | 43¼ | 13,014,754 | N.P. | S. O. California | 25c | Mar. 15, 37 | 17,400 | 48½ | 45½ | 45¾ | — 2⅜ |
| 48½ | 32¾ | 50 | 46 | 15,215,677 | $25 | S. O. Indiana | 25c | Mar. 15, 37 | 17,200 | 48¼ | †46 | 46½ | — 1½ |
| 31 | 25 | 32 | 31 | 145,441 | 10 | S. O. Kansas | $1.00 | Dec. 26, 36 | 300 | 32 | 32 | 32 | 0 |
| 70⅜ | 51⅛ | 76 | 67¾ | 26,200,825 | 25 | S. O. New Jersey | $1.25 | Dec. 15, 36 | 30,000 | 74 | 70⅜ | 70⅝ | — 2¾ |
| 91 | 70 | 77½ | 71 | 2,019,093 | N P. | Sun Oil Co. | 25cQE | Mar. 15, 37 | 700 | 73 | †71 | 72 | — 1½ |
| 125 | 118 | 125 | 120 | 100,000 | $100 | do pfd | $1.50Q | Mar. 1, 37 | 110 | 123 | †120 | 120 | — 3 |
| 6¾ | 3 | 7¾ | 4⅝ | 966,979 | $1 | Superior Oil Corp. (Del.) | ..... | ..... | 13,700 | 7⅛ | 6⅝ | 6⅝ | — ⅜ |
| 55¼ | 28⅞ | 60 | 50⅜ | 9,851,236 | $25 | The Texas Corp. | 25c | Jan. 1, 37 | 94,700 | 58⅜ | 56⅜ | 57⅜ | 0 |
| 15¼ | 7½ | 16⅝ | 13⅛ | 930,570 | 10 | Texas Pacific Coal & Oil Co. | 10c | Mar. 1, 37 | 19,300 | 16¼ | 15 | 15 | 0 |
| 21¾ | 19 | 21⅞ | 19¾ | 5,873,000 | $10 | Tide Water Associated Oil Co. | 15c | Mar. 1, 37 | 11,600 | 21⅛ | †19¾ | 20 | — ⅞ |
| 106½ | 100⅝ | 108 | 105⅛ | 695,503 | $100 | do pfd. C. T. V. | $1.50 | Jan. 2, 37 | 1,600 | 106⅜ | 106⅛ | 106⅜ | + ⅛ |
| 28½ | 20¾ | 28¼ | 25¼ | 4,386,070 | $25 | Union Oil of California | 25cQ | Feb. 10, 37 | 13,200 | 26⅝ | 25⅜ | 25½ | — ⅞ |
| 31⅞ | 22⅝ | 31½ | 26⅝ | 1,200,000 | N.P. | Union Tank Car Co. | 40cQ | Mar. 1, 37 | 11,000 | 29 | 28 | 28⅜ | + ½ |
| 2⅞ | ½ | 1⅝ | 1⅛ | 759,538 | N.P. | Warner Quinlan Co. | .... | ..... | 4,700 | 1¼ | 1⅛ | 1¼ | + ⅛ |
| 5¼ | 2¾ | 6¼ | 4½ | 431,443 | $5 | H. F. Wilcox Oil & Gas Co. | .... | ..... | 5,500 | 5⅞ | 5⅜ | 5½ | 0 |

*New high. †New low. Ex-div. **Dividends of liquidation.
E also 6% stock dividend.

# STANDARD OIL STOCKS ON NEW YORK CURB MARKET

| 1936 High | 1936 Low | 1937 High | 1937 Low | Listed Shares | Par Value | Company | Current Dividend | Last Div. Paid | Transactions Week Ended Mar. 20, 1937 Sales Shares | High | Low | Last | Week's Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 12¼ | 19 | 15¼ | 36,000 | $25 | Borne Scrymser Co. | 75c | Oct. 15, 36 | ..... | ..... | ..... | ..... | ..... |
| 50 | 39¾ | 51½ | 46 | 200,000 | 50 | Buckeye Pipe Line Co. | $1.00 | Mar. 15, 37 | 250 | 49 | 48 | 48¾ | — ¼ |
| 124¾ | 105 | 115½ | 110¼ | 120,000 | 25 | Chesebrough Mfg. Co. | $1.50 | Dec. 21, 36 | 100 | 113 | 113 | 113 | 0 |
| 39 | 19⅞ | 38 | 31⅞ | 6,974,356 | $5 | Creole Petroleum Co. | 25c | Dec. 15, 36 | 5,900 | 34½ | 32 | 32 | — 1½ |
| 47½ | 38½ | 47½ | 43⅞ | 50,000 | $50 | Eureka Pipe Line Co. | $1Q | Feb. 1, 37 | 100 | 40 | 40 | 40 | — 3½ |
| 80 | 57 | 87 | 77½ | 8,985,662 | N.P. | Humble Oil & Refg. Co. | 50c | Dec. 26, 36 | 4,200 | 83¾ | 80⅝ | 80⅝ | — 3⅛ |
| 24½ | 19¾ | 24¼ | 21 | 26,965,078 | N.P. | Imperial Oil Ltd. | °25cS | Dec. 1, 36 | 4,300 | 23⅞ | 23 | 23 | — ¼ |
| 24⅜ | 19⅞ | 24 | 21 | ..... | N.P. | do registered | 25cS | Dec. 1, 36 | 200 | 23⅞ | 23⅛ | 23⅛ | — ⅞ |
| 9¾ | 5½ | 14⅞ | 7¾ | 300,000 | $10 | Indiana Pipe Line Co. | 20c | Dec. 17, 36 | 3,400 | 15 | 14⅝ | 14⅝ | 0 |
| 39⅝ | 32⅝ | 39½ | 33¾ | 14,324,088 | N.P. | International Pet. Co. | °75cS | June 1, 36 | 9,300 | 37¾ | 36¼ | 36⅜ | — ⅝ |
| 38½ | 33⅜ | 38 | 35 | ..... | ..... | do registered | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 15¾ | 9¼ | 11⅞ | 10 | 509,000 | $12.50 | National Transit Co. | 35c | Dec. 15, 36 | 4,100 | 11¼ | 11 | 11¼ | + ¼ |
| 6¼ | 4¼ | 5⅝ | 5 | 100,000 | 5 | New York Transit Co. | 15c S.A. | Oct. 15, 36 | 100 | 5 | 5 | 5 | 0 |
| 9¾ | 4⅞ | 10⅜ | 7½ | 120,000 | 10 | Northern Pipe Line Co. | 35c | Jan. 2, 37 | 1,700 | *10¾ | 10⅛ | 10⅜ | + ⅝ |
| 110⅜ | 104⅛ | 111½ | 109¼ | 562,122 | 100 | Ohio Oil Co. pfd. | $1.50Q | Dec. 15, 36 | 600 | 109⅞ | †109¼ | 109⅞ | — ⅛ |
| 8¼ | 5½ | 8¾ | 5⅞ | 394,000 | $1 | Penn Mex Fuel Co. | 50c | Dec. 21, 36 | 200 | 6⅜ | 5⅞ | 5⅞ | — ⅝ |
| 44 | 32½ | 48 | 44 | 1,142,671 | 10 | South Penn Oil Co. | 90c | Dec. 29, 36 | 500 | 46½ | 45 | 45 | — 1⅜ |
| 7⅞ | 3¼ | 7¼ | 5 | 100,000 | 25 | Southern Pipe Line Co. | 20c | Mar. 1, 37 | 800 | 7¼ | 6½ | 6⅝ | — ⅝ |
| 60 | 44 | 42 | 34 | 35,000 | 10 | South West Pa. Pipe Lines | $1.00 | Dec. 28, 36 | ..... | ..... | ..... | ..... | ..... |
| 23⅝ | 17⅛ | 20½ | 19⅛ | 2,604,801 | 50 | S. O. Kentucky | 25c | Mar. 15, 37 | 7,500 | *20½ | 19¾ | 20½ | + 1¼ |
| 14⅝ | 11 | 13½ | 11½ | 182,803 | 25 | S. O. Nebraska | 25c | Dec. 19, 36 | ..... | ..... | ..... | ..... | ..... |
| 40 | 21¾ | 45 | 33¼ | 753,740 | 25 | S. O. Ohio | 25c | Mar. 15, 37 | 4,800 | 44⅜ | 43 | 43½ | — ⅝ |
| 107½ | 97 | 105¾ | 104 | 120,000 | 100 | do 5% pfd | $1.25Q | Jan. 15, 37 | 100 | 104 | 104 | 104 | 0 |
| 13⅜ | 5⅛ | 17 | 13 | 34,158 | 15 | Swan Finch Oil Corp. | .... | ..... | 100 | 13⅛ | 13⅛ | 13⅛ | — ⅞ |

*New high. †New low. °Imperial Oil Spec. 37½c Dec. 1, 36. International Pet. Spec. 50c June 1, 36.
x Ex dividend.

# CLASSIFIED

## Positions Wanted

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# Oil and Royalty Stocks on New York Curb

| 1936 High | 1936 Low | 1937 High | 1937 Low | Par Value | Company | Transactions Week Ended Mar. 20, 1937 Sales Shares | High | Low | Last | Week's Change |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 7/8 | 1/2 | 2 1/4 | 1 1/4 | N.P. | American Maracaibo | 63,700 | 2 1/8 | 1 3/4 | 1 7/8 | + 1/8 |
| 8 1/4 | 3 1/4 | 12 7/8 | 7 3/4 | N.P. | Arkansas Nat. Gas | 6,400 | 11 1/2 | 10 1/4 | 10 1/2 | — 3/4 |
| 8 1/4 | 3 1/4 | 13 1/4 | 7 7/8 | N.P. | do A | 27,900 | 11 7/8 | 10 5/8 | 10 3/4 | — 1 |
| 10 7/8 | 7 1/8 | 10 3/4 | 9 3/4 | $10 | do pfd | 4,000 | 9 7/8 | 9 3/4 | 9 7/8 | + 1/8 |
| 7 1/4 | 6 1/4 | 8 1/4 | 6 1/2 | $1 | Ashland Oil & Refg | 4,300 | 7 3/4 | 7 3/8 | 7 3/8 | — 1/8 |
| 27 1/4 | 16 1/2 | 26 1/4 | 24 1/2 | N.P. | British Amer. Oil coup | 100 | 25 | 25 | 25 | + 1 1/4 |
| 4 7/8 | 1 7/8 | 2 3/4 | 2 1/8 | $1/4 | Carib Syndicate | 31,100 | 2 3/4 | 2 1/4 | 2 1/2 | + 1/8 |
| 7 3/8 | 3 | 5 3/4 | 4 | N.P. | Cities Service | 184,000 | 5 | 4 1/8 | 4 1/2 | + 1/2 |
| 66 | 41 1/2 | 60 | 47 3/4 | N.P. | do pfd | 5,600 | 54 | 49 1/2 | 50 5/8 | + 7/8 |
| 6 1/2 | 3 3/4 | 5 7/8 | 4 1/2 | N.P. | do pfd. B | 600 | 4 7/8 | 4 3/4 | 4 3/4 | + 1/8 |
| 63 | 40 | 58 | 43 | N.P. | do pfd. BB | 70 | 46 | †43 | 45 | + 1 |
| 4 | 5/8 | .... | .... | N.P. | Colon Oil Corp | .... | .... | .... | .... | .... |
| 10 1/2 | 3/4 | 10 7/8 | 8 1/8 | $1 | Columbia Oil & Gas | 39,200 | 9 3/4 | 8 5/8 | 9 | 0 |
| 3 1/8 | 2 | 3 1/8 | 2 3/4 | $10 | Consolidated Royalty | 500 | 3 | 2 7/8 | 2 7/8 | 0 |
| 4 1/2 | 1 1/2 | 4 5/8 | 2 5/8 | $1 | Cosden Oil | 7,900 | 2 7/8 | 2 5/8 | 2 5/8 | 0 |
| 38 1/2 | 6 1/2 | 39 1/2 | 28 1/4 | $100 | do pfd | 900 | 39 5/8 | 37 | 37 | — 1 5/8 |
| 2 3/4 | 1 3/4 | 2 5/8 | 2 | N.P. | Crown Central Pet | 7,300 | 2 1/2 | 2 1/4 | 2 1/4 | — 1/4 |
| 2 3/4 | 3/4 | 2 5/8 | 1 1/2 | N.P. | Crystal Oil Refg | 400 | 1 1/2 | 1 1/2 | 1 1/2 | — 1/8 |
| 18 1/2 | 9 | 18 1/2 | 16 | $5 | Darby Petroleum | 800 | 16 3/4 | 16 1/8 | 16 1/8 | — 1/2 |
| 6 3/4 | 1 7/8 | 7 7/8 | 5 1/4 | N.P. | Derby Oil & Refg | 1,200 | 6 1/2 | 6 1/8 | 6 1/2 | + 3/8 |
| 81 | 25 1/2 | 88 | 76 1/2 | N.P. | do pfd | .... | .... | .... | .... | .... |
| 59 | 54 | 63 1/4 | 56 | $25 | Gulf Oil Corp | 8,700 | 58 7/8 | 56 | 56 1/4 | — 1 3/4 |
| 6 1/4 | 2 5/8 | 4 7/8 | 3 1/2 | N.P. | Indian Ter. Illg. Oil A | 600 | 4 1/4 | 4 1/8 | 4 1/4 | 0 |
| 6 1/2 | 3 | 4 7/8 | 3 3/4 | N.P. | do B | 400 | 4 1/4 | 4 1/4 | 4 1/4 | 0 |
| 5 3/4 | 2 3/4 | 8 3/4 | 5 1/4 | $1 | Kirby Petroleum | 5,000 | 6 3/4 | 6 1/8 | 6 1/2 | + 1/4 |
| 2 | 1/2 | 2 1/2 | 1 1/4 | $25 | Leonard Oil Dev | 15,800 | 1 7/8 | 1 1/2 | 1 1/2 | — 1/4 |
| 17 3/4 | 7 5/8 | 19 7/8 | 16 1/4 | N.P. | Lion Oil Refg | 23,700 | *19 7/8 | 16 3/4 | 19 1/4 | + 1 1/2 |
| 14 1/2 | 9 7/8 | 14 3/4 | 11 1/4 | N.P. | Lone Star Gas | 2,900 | 12 3/8 | †11 1/4 | 11 1/4 | — 1/4 |
| 22 1/4 | 12 | 33 1/2 | 25 | N.P. | Margay Oil Co | 500 | 31 | 29 | 29 | — 1 3/4 |
| 4 1/2 | 1 1/2 | 4 1/4 | 3 | N.P. | Mexico-Ohio Oil | 1,000 | 3 1/4 | 3 | 3 | — 1/4 |
| 4 3/4 | 1 7/8 | 11 3/8 | 2 3/4 | $1 | Michigan Gas & Oil | 4,700 | 10 5/8 | 9 | 9 | — 1 7/8 |
| 6 5/8 | 2 3/4 | 7 | 5 1/4 | N.P. | Mid. States Pet. A vtc | 3,100 | 6 3/8 | 5 7/8 | 6 | — 1/4 |
| 2 5/8 | 1/4 | 2 | 1 1/2 | N.P. | do B vtc | 1,300 | 1 5/8 | †1 1/2 | 1 1/2 | — 1/8 |
| 8 3/4 | 5 | 7 7/8 | 6 | $10 | Mountain Producers | 2,500 | 7 | 6 3/4 | 6 3/4 | 0 |
| 23 | 17 3/8 | 19 1/2 | 16 3/4 | N.P. | National Fuel Gas | 2,400 | 17 | †16 3/4 | 17 | 0 |
| 4 5/8 | 2 1/2 | 6 | 4 3/4 | $5 | New Bradford Oil | .... | .... | .... | .... | .... |
| 8 3/8 | 3 3/8 | 6 1/8 | 5 1/8 | $5 | North Central Texas | 700 | 5 1/2 | 5 1/2 | 5 1/2 | — 1/8 |
| 1/4 | 1/8 | 1/4 | 1/8 | $1 | North European | 26,300 | 1/4 | 3/8 | 3/8 | — 1/8 |
| 17 3/8 | 12 | 14 1/2 | 13 3/4 | $5 | Oil Stocks Ltd. A | 300 | 13 7/8 | 13 7/8 | 13 7/8 | — 1/8 |
| 10 1/2 | 3 1/4 | 9 3/4 | 6 | $1 | Pantepec of Venezuela | 30,100 | 6 7/8 | †6 | 6 1/4 | — 5/8 |
| 1/4 | 1/8 | 1/4 | 3/4 | 25c | Producers Corp | 3,200 | 1/2 | 1/4 | 1/4 | — 1/4 |
| 20 | 3 | 17 1/4 | 10 | N.P. | Red Bank Oil | 2,200 | *17 1/4 | 16 | 16 1/2 | + 1/2 |
| 1 1/2 | 1/4 | 1 1/2 | 3/4 | N.P. | Reiter-Foster Oil | 4,800 | 1 1/2 | 1 1/4 | 1 3/8 | — 1/8 |
| 2 3/4 | 1/4 | .... | .... | $25 | Richfield Oil pfd | .... | .... | .... | .... | .... |
| 19 1/4 | 4 1/2 | 13 3/4 | 9 1/2 | $1 | Root Petroleum | 2,400 | 9 7/8 | 9 1/2 | 9 5/8 | — 3/8 |
| 23 | 14 1/2 | 18 | 16 | $20 | do conv. pr. pfd | .... | .... | .... | .... | .... |
| 4 3/4 | 1 7/8 | 6 1/2 | 4 1/4 | N.P. | Ryan Consolidated | 2,300 | 5 | 4 3/8 | 4 3/8 | — 5/8 |
| 11 1/4 | 6 1/4 | 10 3/4 | 8 3/4 | N.P. | Southland Royalty | 1,100 | 9 | †8 3/4 | 8 3/4 | — 1/4 |
| 5 | 2 5/8 | 4 7/8 | 4 | $1 | Sunray Oil | 11,400 | 4 3/4 | 4 1/2 | 4 1/2 | — 1/4 |
| 49 | 45 | 50 | 45 1/4 | .... | do pfd | 900 | 49 | †1 1/4 | 49 | — 1/2 |
| 9 3/4 | 5 3/4 | 7 5/8 | 6 1/2 | N.P. | Texon Oil & Land | 2,500 | 6 7/8 | 6 1/2 | 6 1/2 | — 1/4 |
| 8 | 2 3/4 | 9 1/4 | 7 1/4 | .... | Venezuela Mex | 900 | 7 3/4 | 7 1/2 | 7 1/2 | — 1/4 |
| 3 | 1 1/4 | 3 3/4 | 1 3/4 | $1 | Venezuela Petroleum | 8,200 | 2 5/8 | 2 5/8 | 2 5/8 | 0 |
| 11 | 5 5/8 | 12 7/8 | 8 3/4 | $1 | Woodley Petroleum | 500 | 10 | 10 | 10 | + 1/4 |

*New high. †New low.

# New York Bonds

Week Ended March 20

| | High | Low | Last | Change |
|---|---|---|---|---|
| Atlantic Refg. deb. 5s | 101 3/32 | 101 1/32 | 101 1/32 | — 1/32 |
| Houston Oil 5 1/2s '40 | 102 | 101 1/2 | 102 | + 1/2 |
| Pan Amer. Pet. of Calif. 6s | 52 5/8 | 51 1/4 | 52 1/4 | — 1/4 |
| do 6s ctfs | 53 | 49 1/4 | 49 1/4 | — 3/4 |
| Pure Oil 4 1/4s '50 w.w. | 123 1/2 | 119 | 119 | —5 |
| do x.w. | 103 3/8 | 103 1/4 | 103 1/4 | 0 |
| Richfield Oil of Calif. 6s | 60 1/2 | 56 1/2 | 56 1/2 | — 1/2 |
| do 6s ctfs | 60 1/2 | 56 1/2 | 57 | —1 |
| Shell Union Oil 3 1/2s '51 | 98 | 96 | 96 3/8 | —1 1/8 |
| Skelly Oil 4s '51 | 99 | 97 3/8 | 98 1/2 | + 3/8 |
| Socony-Vacuum 3 1/2s '50 | 104 3/4 | 102 3/4 | 103 | —1 1/2 |
| S. O. N. J. 5 1/2s | 97 7/8 | 96 1/4 | 97 | — 1/4 |
| Union Oil of Calif. 6s A | 119 | 118 1/4 | 118 1/4 | — 3/4 |
| do 3 1/2s '52 | 114 1/8 | 112 | 113 1/4 | — 5/8 |
| Warner-Quinlan 6s '39 | 52 | 50 1/8 | 51 | — 3/4 |

# New York Curb Bonds

Week Ending March 20

| | High | Low | Last | Change |
|---|---|---|---|---|
| Cities Serv. 5s '66 | 74 1/2 | 72 1/2 | 72 1/2 | 0 |
| Cities Serv. 5s '50 | 74 3/4 | 70 | 70 3/4 | —2 1/4 |
| Cities Serv. G. 5 1/2s '42 | 101 1/4 | 100 1/4 | 100 5/8 | 0 |
| Empire O & R 5 1/2s '42 | 89 1/2 | 88 | 89 1/2 | +1 |
| Valvoline Oil 7s '37 | 99 1/4 | 99 1/4 | 99 1/4 | + 1/4 |

# Pittsburgh Stock Exc.

Transactions Week Ended March 19, 1937

| | Sales | High | Low | Last | Change Over Week |
|---|---|---|---|---|---|
| Ark. Nat. Gas | 35 | 11 | 10 5/8 | 10 5/8 | —1 3/8 |
| †Cities Serv | 449 | 5 | 3 7/8 | 4 1/4 | — 1/8 |
| Col. Gas & Elec | 533 | 17 | 16 1/2 | 16 3/4 | 0 |
| †Col. Oil & Gaso | 82 | 9 5/8 | 9 1/8 | 9 1/8 | 0 |
| Devonian Oil | 120 | 20 1/2 | 20 1/2 | 20 1/2 | 0 |
| xLone Star Gas | 5,154 | 12 1/2 | 11 3/8 | 11 5/8 | — 3/4 |
| Mountain Fuel Supply | 2,472 | 10 3/8 | 10 | 10 | — 1/2 |
| Pgh. Oil & Gas | 500 | 3 1/4 | 3 1/4 | 3 1/4 | — 1/2 |
| Plymouth Oil | 35 | 26 7/8 | 26 7/8 | 26 7/8 | — 3/4 |
| Shamrock Oil & Gas | 1,619 | 7 1/8 | 6 3/4 | 6 7/8 | — 1/4 |
| †Stand. Oil of N. J. | 163 | 73 3/4 | 70 1/4 | 70 1/4 | —3 5/8 |

†Unlisted. x Ex dividend.

# Cleveland Stock Exc.

Transactions Week Ended March 20, 1937

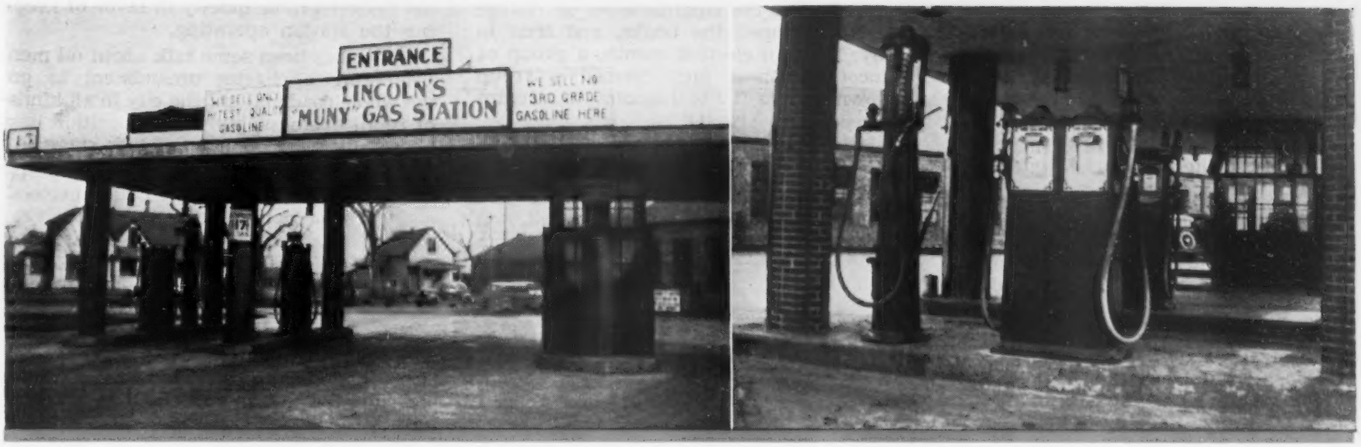
| | Sales | High | Low | Last | Change Over Week |
|---|---|---|---|---|---|
| Canfield Oil | .... | .... | .... | .... | .... |
| do pfd | .... | .... | .... | .... | .... |
| Nat'l Refining | 650 | 11 | 10 3/4 | 11 | + 1/4 |
| do pfd | 33 | 99 | 99 | 99 | 0 |

# Oil Dividends

Dividends Waiting Payment

| Company | Amount | Record | Payable |
|---|---|---|---|
| Ashland Oil & Refg. q | 10c | Mar. 10 | Mar. 31 |
| Borne-Scrymser | 75c | Mar. 20 | Apr. 15 |
| Canfield Oil | $1.00 | Mar. 20 | Mar. 31 |
| do pfd | | Mar. 20 | Mar. 31 |
| Chesebrough Mfg. Co. q. | $1.00 | Mar. 5 | Mar. 29 |
| do extra | 50c | Mar. 5 | Mar. 29 |
| Consolidated Royalty Oil q | 0 5c | Apr. 15, | Apr. 25 |
| Continental Oil | 25c | Mar. 1 | Mar. 29 |
| Gulf Oil Corp | 25c | Mar. 15 | April 1 |
| Humble Oil & Refg | 37 1/2c | Mar. 2 | Apr. 1 |
| Lone Star Gas | 20c | Mar. 20 | Apr. 20 |
| Margay Oil Corp | 25c | Mar. 20 | Apr. 10 |
| Paraffine Co. Int | $1.00 | Mar. 10 | Mar. 27 |
| do pfd. q | $1.00 | Apr. 1 | Apr. 15 |
| Plymouth Oil | 25c | Mar. 3 | Mar. 31 |
| do extra | 10c | Mar. 3 | Mar. 31 |
| Pure Oil Co. 5 1/2% pfd. | $1.50 | Mar. 10 | Apr. 1 |
| do 6% pfd | $1.50 | Mar. 10 | Apr. 1 |
| do 8% pfd | $2.00 | Mar. 10 | Apr. 1 |
| Shell Union Oil pfd. q | $1.37 1/2 | Mar. 10 | Apr. 1 |
| Skelly Oil 6% pfd. q | $1.50 | Apr. 15 | May 1 |
| South Penn Oil Co. q | 37 1/2c | Mar. 16 | Mar. 31 |
| do extra | 22 1/2c | Mar. 16 | Mar. 31 |
| South West Pa. Pipeline | 50c | Mar. 15 | Apr. 1 |
| Stand. of Nebraska | 25c | Mar. 4 | Mar. 29 |
| Standard of Ohio pfd. q | $1.50 | Mar. 31 | Apr. 15 |
| Sunray Oil Co. | 5c | Mar. 26 | Apr. 26 |
| do pfd. q | 68 3/4c | Mar. 10 | Apr. 1 |
| Texas Corp. | 50c | Feb. 15 | April 1 |
| Texon Oil & Land q. | 15c | Mar. 10 | Mar. 31 |
| Tide Water Assoc. $4.50 pfd. Int. q | $1.12 1/2 | Mar. 10 | Apr. 1 |
| Woodley Petroleum q. | 10c | Mar. 18 | Mar. 31 |

ADVERTISING PAGES REMOVED




Two views of the municipal gasoline station at Lincoln, Nebr., born at an election in 1924 and since several times an issue among the city's voters, who keep it in existence in the belief it holds down prices at company stations in the city. The station consists of four islands under a canopy, a small station house being located on one of the islands. Gasoline is hauled to the station by truck and trailer from a bulk plant several blocks away

# "Muny" Station a Perennial Issue

## Now Lincoln, Nebr., Retailers, Nettled By This Competition, Seek Right to Audit Its Books Through the Courts.

*By* **E. L. BARRINGER**
**N. P. N. Staff Writer**

THE municipally owned and operated service station in Lincoln, Nebr., again bids for the industry's attention. This time it is the retailers feeling the sting of "Muny" station competition who are nettled by the indefinite factor of what is the cost of selling a gallon of gasoline.

Crux of the retailers' complaint is the same that has irked Lincoln oil marketers ever since the Muny station was opened Nov. 20, 1924. It is the meaning of two words in the enabling legislation setting up a retail and wholesale gasoline price at "cost" plus "contingencies."

To determine what are "cost" and "contingencies" retailers have filed a petition in district court here, aimed at an audit of the Muny station accounting records.

Other complaints set up in the petition are against sales to non-residents of Lincoln, against the sale of alcohol, and against a sign at the station reading "We sell no 3rd grade gasoline here"—claimed to be fradulent advertising; but the heart of the retailer's complaint is "cost." So when the city commissioner in charge of the Muny station refused access to the records retailers resorted to court action.

Lincoln's Muny station, the only one of its kind in the country, has continued in business for almost 12 years through the desire of motorists for "cheap gasoline." The city operating retail business has been fought repeatedly, but voters march to the poll and plump their ballots to continue the Muny station.

Prior to establishment of the Muny station, local citizens had a taste of government in retail business, through Gov. Charles W. Bryan's state-operated service station on the outskirts of Lincoln. During the war Bryan fought railroads to keep tank cars rolling to his station, in his fight against the oil industry, but the station later was invalidated by the courts.

The Muny station was born at an election Nov. 4, 1924, when 10,090 voters approved, 8105 voters rejected, an amendment to the city's charter permitting, but not requiring, the sale of gasoline, motor oil and coal at wholesale and retail to Lincoln citizens.

In the charter amendment battle the local press is charged with having stirred up votes for the proposed Muny station. One paper on the eve of the election published the following story:

"According to a rumor which reached Governor Bryan's state gasoline station, the private oil companies in Lincoln indicated at a recent meeting that, if the amendment to the Lincoln charter authorizing the city to retail gasoline is defeated at the city election Tuesday, the price of gasoline in Lincoln will be raised 2 cents a gallon in Lincoln next Thursday."

Incidentally, 13 local oil companies opposed the 1924 charter amendment, and ten no longer are in business.

Lincoln's council went into action immediately after the election. The Muny station was opened Nov. 20, 1924. Governor Bryan, the first customer, purchased five gallons of gasoline at 13 cents a gallon.

The price of gasoline, as set up in the charter amendment, hinges on "cost" plus "contingencies." Local oil men, when asked for an interpretation, resort to practical business methods in assuming that cost means the cost of the merchandise plus the cost of building, maintaining and operating a place of retail business. Contingencies they define as insurance and such items of operating expense as distinguished from charges for rent, labor, heating, lighting, to mention a few.

Actually, the Muny station has been snarled up in politics, and one audit was made during an investigation in the early days of the station. The audit made by an accounting professor at the University of Nebraska covered operations from June 1, 1925 to March 31, 1927.

That investigation concerned gasoline tank car purchases. The city commissioner in charge of the station was claimed to be paying a premium on gasoline purchased from the Kansas City branch office of a Chicago tank car marketer. A local newspaper "broke the story" April 8, 1927, publishing a comparison of prices paid by the Muny station with those published in Platt's Oilgram.

The audit, during the investigation, showed in the 22 months a net operating profit of $11,442.10. Also, that rent, management salary and reserve for depreciation were not charged against the station.

Establishment of a retail price has plagued the commissioner operating the

station. (Each city commissioner in Lincoln is put in charge of some department, such as police, fire, Muny station, and so on.) The city commissioner in charge back in 1927 claimed he took over the station with a retail price 0.5 cent above the tank car laid down price, but then advanced the margin.

City council, he claimed, refused to set a price. Then he made his own investigation and found station operating costs ranged from 3 to 7 cents. He selected 3 cents, shaded it 0.25 cent, and put the Muny station margin at 2.75 cents.

Obviously setting a margin at a Muny station at any time has its political complications. Establishing an accurate cost, and charging it to the owners of the station is one thing. Keeping the price down to the public is another.

Ever since the Muny station was established it has been campaigned against by oil interests. The first legal action came from the Standard Oil Co. of Nebraska, a suit challenging the right of the city to destroy its property, but the case was lost in state and federal courts.

Local station operators then conducted a vigorous campaign in 1931 for a repeal of the charter amendment, but lost by a 3 to 2 vote.

Two years later Lincoln's Muny enterprises were under fire. It was claimed the service station had lost about a tank car of gasoline through shrinkage, also newspapers charged city employes were buying coal from the Muny coal yard on credit and taking their time about paying the bill.

January, 1935, was another notable month when an attempt was made for an audit but the commissioner in charge refused to open the books, and then in May, 1935, an election month, a group of Lincoln business men formed a group known as "Do It For Lincoln" to attempt to repeal the charter.

When the votes were counted the repeal lost 13,120 to 7462. Also, at the same election several city commissioners had run on a platform of gasoline at cost, and Bryan, sponsor of Muny enterprises, was elected mayor.

BACK of the many considerations that created the Muny station, and keeps it in business, are two main factors—Bryan, and the desire of the people for "cheap gasoline."

Bryan—one time governor of Nebraska, candidate for vice-president on the Democratic ticket in 1924, and now mayor of Lincoln—is the political power and leader in and around Lincoln. He has fought for low gasoline prices, is a shrewd leader, and is the political leader of the people.

The desire for "cheap gasoline" is a powerful factor in rolling up a majority against repeal of the charter amendment. Even people who do not patronize the Muny station still vote to retain it, on the theory, that the Muny station is the lever to keep down prices throughout the city.

Further, Muny station prices are believed to be an attraction to bring people into Lincoln to do their trading, and on this score there are persons in Lincoln who logically would be in favor of keeping government out of retail business who are believed to be quietly in favor of keeping the station operating.

There has been some talk about oil men promoting a charter amendment to go the whole road and put the city in all kinds of retail business, but the proposition has never advanced beyond the talk stage.

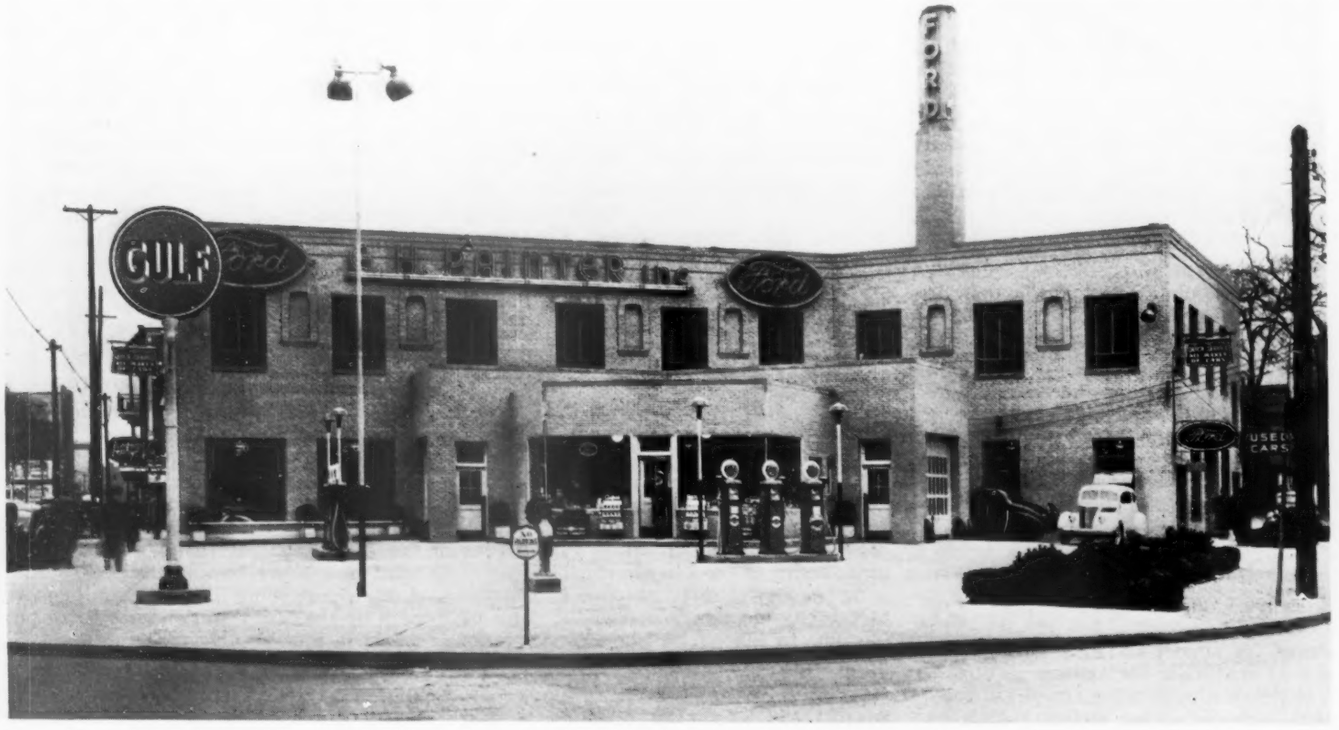
The first Muny station was on city property, on the northern end of the business district some four blocks from the city's retail center. This was a trackside station.

Now the station is a straight drive-in outlet with three pump islands under a canopy. A small station house and several pumps are on a fourth island. The bulk plant is several blocks away, with about 80,000 gallons storage. Gasoline is transported to the station on a truck and trailer unit.

The station at one time sold 1,000,000 gallons of gasoline a year, against the city's total consumption of 15,000,000 gallons.

At present the Muny station posts prices of 15 and 17.5 cents on gasoline and oil is sold at 15 and 20 cents a quart. Prior to the major companies leasing stations early this year, retail prices at oil company stations were 15 cents on third grade, and 19 cents on regular.

When company stations were leased out, about 10 per cent of Lincoln's 250 stations met the Muny price. Some ten days after leasing stations a dealer price on third grade of 13 cents was posted, so Lincoln's price structure has settled out to those at the Muny station, still at 15 and 17.5 cents; oil company stations meeting the 15-cent price and posting, 20.1 cents for regular, these figures including the former 5 cents state gasoline tax.




This recently completed branch neighborhood service station is the first of this new type to be opened in Cleveland. The one-story building section in the foreground is devoted to the sale of petroleum products and accessories. Two lifts, approachable through overhead doors at each end of the small building, are provided for lubrication service. The two-story building houses the new and used car sales and service departments. There is no waiting room in the service station. Instead, customers waiting for their cars to be serviced are invited to go into the display room, where they can wait in comfort, and incidently look over the new cars. This new set-up is owned and operated by E. H. Painter, Inc., Cleveland Ford dealer

# LET US SHOW YOU HOW THIS NEW SYNTHETIC TUBE GASOLINE HOSE SAVES MONEY

ALL we ask is an opportunity to demonstrate the following features of Goodyear's new Style B.H. and W.W.H. Synthetic-Tube Gasoline Hose to convince you that it will cut your hose replacement costs to the bone.

**TOUGH NON-CRACKING BLACK RUBBER COVER**—*sun- and weather-proof; does not discolor; resists abrasion — protector rings unnecessary.*

**HIGHEST QUALITY SYNTHETIC TUBE**—*impervious to action of gasoline; will not flake or disintegrate.*

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## Service-proved!

Both types have been thoroughly proved in months of tests at temperatures ranging from 38° below zero in Minnesota to 100° above in Texas. In actual pump service under these severe conditions there has been no cover failure or cracking—evidence of the superior quality built into this hose.

A request from you will bring the G. T. M.—Goodyear Technical Man—with samples and complete data. Just write Goodyear, Akron, Ohio, or Los Angeles, California—or the nearest Goodyear Mechanical Rubber Goods Distributor.

GOODYEAR STYLE W. W. H. GASOLINE HOSE is made with a high quality synthetic inner tube, a woven jacket reenforcement having alternate wire and cotton yarn filler strands, and a tough outer cover of abrasion-resisting black rubber.
GOODYEAR STYLE B. H. GASOLINE HOSE has the same high quality synthetic tube and tough black rubber outer cover. It is reenforced with three braids of high tensile cotton cord — the middle braid being woven with a strand of braided copper wire that provides a static bond for the hose.
STYLE W. W. H. HAS A HIGHER RESISTANCE TO CRUSHING — STYLE B. H. IS MORE FLEXIBLE

THE GREATEST NAME IN RUBBER

GOODYEAR

**Style B. H. GASOLINE HOSE Style W.W.H.**

# Key to Farm Market for Oil Products Is More Efficient Tractor Fuel . . .

By N. BOND HEDDEN*

*(A Talk Delivered before Recent Conventions of the Illinois, Wisconsin and Indiana Marketers' Associations)*

THE oil marketing company is in a position to show its farm customers how they can reduce their costs of production by the use of high compression motors in their tractors and the gasoline fuels which will give the greatest power in the operation of the tractors.

A number of the larger tractor manufacturers are making high compression motors available for their tractors, it is pointed out, and some manufacturers are featuring these motors as standard equipment, thus making a growing market for gasolines of 70 octane rating for this use. The means are also described by which older type tractor motors can be converted to the high compression type. The advantages to the farmer are listed of high compression motors plus the higher octane fuels.

It is brought out that the modern farm tractor will consume almost twice as much fuel per year as the average passenger car, to show the great extent of interest by the farmer in suitable tractor fuels.

UPON examination of the subject of this talk, I feel that perhaps some doubt may exist in your mind as to whether there is a large potential gallonage in the present farm market.

In order to substantiate the fact that the American farmer is a much larger consumer of petroleum products than we perhaps realize, I wish to quote the following statistics.

We have registered in the U. S. a total of 6,500,000 farms. The rural population represented operates 4,134,600 passenger cars. There are 900,385 trucks owned and operated on these farms. There are approximately 300,000 stationary engines in farm service most of which are using gasoline as a fuel. Also there were in operation last year 1,200,000 farm tractors.

What do all of these figures mean? Just this, of all the cars registered in the U. S. 18 per cent of these cars are on the farm and 26 per cent of all the trucks in service are owned and operated by our American farmers.

The startling fact is that the total annual consumption of all of these internal combustion motors is approximately 4,000,000,000 gallons of fuel per year which represents approximately 22½ per cent of the total annual domestic consumption.

By what means should we attempt to reach this farm market? My company for the past number of years has retained a close interest in this farm market and it is our opinion, after close observation and careful study, that the farm tractor is the proper approach to this field.

Do you realize that the modern farm tractor will consume almost twice as much fuel per year as is used in the average passenger car? Because of this large fuel consumption by the average farmer, he is quite fuel conscious and decidedly interested in obtaining information for improved motor operation.

Do you also realize the duty you owe to the operator of this equipment? The popular size farm tractor sells for approximately $1000. Yet you as distributors of petroleum products sell to the operator of this tractor during its average life approximately $2500 worth of fuels, motor oils and greases. Two and one-half times the amount of the original sales price is obtained by you in keeping this equipment in operation.

*Tractor engineer, Ethyl Gasoline Corp., Chicago.

### Power Is Talking Point

How may we appeal to this consumer? Certainly we can't advertise the anti-knock value of our gasoline fuels. You who are familiar with the operation of a tractor know it is quite a noisy piece of mechanism, with which little or no attempt has been made to muffle the exhaust. It would be almost impossible to determine knocking tendencies of gasoline in this equipment. So this approach is impractical. Certainly we cannot advocate flashing pick-up and acceleration as this equipment operates under governed speeds and uniform working loads.

However, there is one method open and that is to appeal to the farmer's desire for additional power at less cost. If we can show the farmer the way to reduce his costs of production with high compression motors and good gasoline fuels, we are rendering him a direct sales service. This means the farmer is better utilizing our petroleum products and the result is a satisfied customer.

Let us examine our present popular two-plow tractor motor. In our latest, most efficient airplane motors we are developing almost 100 horsepower per cyl-

Copy along this line is suggested by the Ethyl Gasoline Corp. for marketers to use to bring home to their farm customers the advantages of high compression motors for tractors and fuels which will provide for greater power in the operation of tractors

# WHEN STARS GET TOGETHER ★ ★ ★ ★

Eddie Cantor and Bobby Breen, stars of radio and screen, get together with Xactomatic under the Texaco Star at

*Lydon Bros. Service Station, San Francisco, Calif.*

# XACTOMATIC

## THE 4 STAR COMPUTER

- ★ **Distinctive In Beauty**
- ★ **Unusual In Accuracy**
- ★ **Dependable In Performance**
- ★ **Outstanding In Value**

Stardom! A goal that many aspire to but only few achieve! For to become a star—an actor, a singer or a gasoline pump has to be an outstanding performer. And, an unusually fine performer to *grow* in popularity.

Among gasoline pumps, Xactomatic has earned a star's rating! It *is* outstanding, because it has every feature you would want in a truly fine computing pump! And to its unusually fine attractiveness, accuracy and performance is due the fact that its popularity is increasing so spectacularly every day.

While you would, naturally, think that "stars" are high priced—and they usually are—this is not true of Xactomatic . . . For with all its outstanding features . . .

XACTOMATIC COSTS NO MORE!

**S. F. BOWSER & CO., INC.**

FORT WAYNE, INDIANA

S. F. Bowser & Co., Inc.
1334 Creighton Ave., Fort Wayne, Ind.

We're interested in Xactomatic—the "Star" Computer. Tell us more about it.

Name_____

Address_____

City_____ State_____

# XACTOMATIC

TODAYS BIGGEST BUY IN COMPUTING PUMPS!

inder. In the medium priced later model passenger cars we are developing 100 horsepower per engine. Yet in the popular farm tractor it will take from four to five motors to develop 100 horsepower. So you can see our present tractor motors are quite under powered.

With the growing trend toward the use of good gasoline in our tractor motors, we are seeing a tremendous interest in higher compression motors to obtain more power which means additional drawbar horsepower, permitting more useful work. In theory, we are endeavoring to squeeze more of the potential heat energy of gasoline fuel into useful work. In practice, this means higher compression ratios. Our average compression ratio for passenger cars for 1937 is 6.25 to 1 yet our tractor motors are operating in the range of 4 to 1.

The automobile industry, which has never stood still, has continuously increased compression ratios of automobile motors to give us greater power and economy. Now the tractor industry, to keep faith with America's farmers, is making available high compression to give more powerful and economical tractors.

There is no mystery in connection with high compression. No one has a patent on it. It is a simple engineering principle that can be easily applied to any tractor motor.

### Secret of High Compression

This is the secret of high compression—you put a little more power on the compression stroke of the piston going up, and you get a lot more power on the stroke when the piston is coming down.

For example, suppose we fill the cylinder with fuel mixture and compress it with the pistons until we have the vapors under a pressure of 60 pounds per square inch. We discover that ignition of the charge by the spark plug will give us a pressure of about 240 pounds per square inch with which to push the piston down. Now suppose the pressure on the fuel before burning is raised an additional 40 more pounds to 100 pounds per square inch by making the combustion chamber smaller. We then find combustion would raise the pressure to 400 pounds per square inch, which would give us an increase of 160 pounds per square inch working pressure on the piston.

In the past two years a number of our larger tractor manufacturers have made available high compression motors in their new equipment at no extra cost, and some tractor manufacturers are featuring high compression motors as standard equipment designed especially for 70 octane fuel. These tractors have met with immediate popular approval and are being sold in such increasing numbers that to date thousands of these tractors are now in daily field service.

We realize that it is impossible to remove from active service older tractors that are operating with lower compression. However, it is now possible to convert these older type motors over to high-compression thereby obtaining greater power and economy. This change is accomplished in two simple ways: in valve-in-head engines by the installation of high compression pistons (sometimes called high altitude or 8000 foot altitude pistons); in "L" head engines by the installation of high compression heads. These pistons are similar in diameter but are some three-eighths of an inch higher in overall height and will, therefore, compress the fuel more tightly—that means higher compression.

### Converting Old Tractors

With the improvement in our regular gasoline fuels it is now possible to use altitude pistons at normal altitudes. These pistons can be installed at nominal cost during the overhaul period. After the high compression pistons or head has been installed, only a few minor adjustments are needed. Intake manifolds which can be adjusted to run "hot" to "cold" should be changed to "cold." Combination intake manifolds for kerosine, distillate and gasoline which cannot be adjusted and run too hot to burn gasoline efficiently should be replaced with cold or gasoline manifolds.

LET us look at the present fuels which are in general distribution for tractor use. They are, as you know, kerosine, distillate, third grade gasoline and regular gasoline. From the distillation range in these four fuels it can be noted that there is a wide range in their general characteristics. Because of the high initial boiling points of our heavier fuels it is practically impossible in most cases to obtain sufficient heat in manifolding to completely vaporize these fuels. Consequently, the result is that a certain per cent of dilution is always present.

There is also in these four fuels a large variation in anti-knock value ranging from practically zero to 70 octane number. Consequently tractor motors, often called compromise motors, are designed to operate on any of these four fuels and necessarily must be built with a low enough compression ratio to operate on the heavy fuel of low octane number. When gasoline is used as a fuel the compromise motors cannot utilize the full potential heat of the gasoline because of the low compression ratios.

### Advantages in Operation

I wish to briefly point out to you the outstanding advantages of high compression tractor motors plus good gasoline from the standpoint of economy:

**Less Fuel Per Acre**—High compression tractors can do the same amount of work as low compression tractors on 25 to 33 per cent less fuel.

**Eliminates crankcase dilution**—It is impossible to completely vaporize distillate or kerosine and the portion not vaporized runs down the cylinder walls into the crankcase and dilutes the oil.

**Lower Maintenance Costs**—The elimination of wasteful crankcase dilution means less wear on the sleeves and pistons. This results in much longer periods between overhauls.

**Longer Engine Life**—The experiences of thousands of farmers have shown that good gasoline keeps engines in good shape and increases engine life.

**Reduced Oil Consumption**—The length of time between oil changes is usually doubled with high compression tractors.

**One Fuel for Car and Tractor**—Saves the bother and expense of having to provide storage for both tractor fuel and car and truck gasoline.

**Time Saved By Higher Speeds**—Field tests prove that the combination of high compression tractors and good gasoline results in higher working speeds which means less time spent in the fields.

From the standpoint of increased power, high compression plus good gasoline attains the following results:

### Results Achieved

**Increased Drawbar Pull**—High compression tractors can easily walk away with the load and actually do 25 to 33 per cent more work on the same amount of fuel used by a low compression tractor for the same job.

**Increased Belt Horsepower**—This increased power at the belt allows you to take greater loads at higher and more evenly maintained speeds.

**Greater Reserve Power**—Ability to continue through heavy going without changing into a lower gear.

**Ability to Ide**—Using good gasoline your high compression tractor will idle better and do away with unnecessary cranking.

**Reduced Bearing Pressure**—High compression tractor engines push out escaping gases under higher pressure. This serves as a cushion against the piston and reduces the strain on the bearings.

**Easier Starting**—Eliminates hard starting on cool mornings and gives you the quick starting you get in your car with good gasolines. Starting and running on the same fuel is a great advantage in any weather.

**Cooler Running Engine**—The tractor engine actually runs cooler because more heat energy of the fuel is being used as useful power.

Remember that high compression tractor motors and the use of good gasoline is not an idea that we hope to develop in the future but it is a reality today. Thousands of these tractors are now in everyday use. From all parts of the country come testimonials from users and from farm customers who have converted their tractors to high compression, verifying these foregoing advantages.

In summation, may I state that this sales service is both practical and profitable. Practical because it has been successfully tested by tractor manufacturers, by leading agricultural colleges and by thousands of farmers throughout the country. Profitable because its economies when added up total "Less Cost Per Acre."

While a great number of American farmers recognize the many advantages of high compression in tractors, there are still a large number to whom this information has not been made available. You gentlemen, to whom the farm trade represents a large gallonage market, can do much to build up and retain these customers through the good-will established by bringing to this market the message of high compression tractors.

ADVERTISING PAGES REMOVED

# Alcohol-Gasoline Blend Reaches Dealer; More Producing Plants Contemplated

These buildings house the Bailor Manufacturing Co. plant at Atchison, Kans., which has been producing alcohol for the Agrol blend since Oct. 2, 1936. On a test day 12,500 gallons were produced

*By* LAWRENCE E. SMITH
N. P. N. Staff Writer

ALCOHOL, manufactured at Atchison, Kans., in the plant of the Bailor Manufacturing Co. under a contract with the Chemical Foundation of Kansas Co. (subsidiary of the Chemical Foundation of America), is being marketed as motor fuel of a low percentage blend with gasoline in Atchison and in Superior, Neb., and was recently introduced in Omaha in connection with the Midwestern Conference of the Farm Chemurgic Council.

This enterprise received considerable publicity about a year ago when the parent company, C. F. of A., linked up its proposed production of alcohol for motor fuel with the thought that the farmer would secure a market for surplus crops, especially corn. That didn't work out because last summer's drought attended to the corn crop surplus in the region.

No alcohol was made in the Bailor plant until Oct. 2, 1936. The plant has operated at varying rates since. Considerable experimental work has been done and is still going on, the management explained. Rated capacity output is 10,000 gallons daily. One day, when everything was in readiness, 12,500 gallons were produced, but that was a special test and the average day's production has been far below that mark.

In the Atchison district the blend is advertised as a superior motor fuel. It is not being sold as a cut price fuel at this time and, marketers not handling Agrol gasoline said, has not been sold below prevailing retail prices.

Agrol is the name under which the blend is advertised and sold to the public. The word was coined from "agriculture" and "alcohol."

For more than a year application has been before the U. S. Bureau of Internal Revenue for a permit to ship alcohol. During this time the material moved out of Atchison has been styled Agrol fluid, approximately a 50-50 blend of alcohol and gasoline. The dealer who received it added more gasoline to lower the alcohol percentage to the desired point.

The application for permit was made to the Kansas City division of the revenue bureau. Recently, permit to ship alcohol was asked at St. Paul, which indicated that the Chemical Foundation intended to enter that territory.

One company official said their policy was to move the alcohol in the direction of the flow of gasoline. He made this reply when asked if a Wichita, Kan., jobber was planning to market the blend there. The Chemical Foundation official said it was much easier and cheaper to supply alcohol to gasoline trucks moving gasoline from refineries located south of Atchison than to move alcohol against this gasoline stream. He said inquiries indicated that the Chemical Foundation could market this year at least ten times its present plant capacity. Several improvements are being made that will add to plant efficiency.

The company intends to build plants elsewhere, but not necessarily during this year. The Chemical Foundation, it was said, plans to build numerous plants of small capacity. One reason for this policy is to market the refuse material locally. In Atchison a market had been developed among poultry growers. The absorption of the by-product feed and the obtaining of raw material from farmers within easy hauling distance of the plant will be other considerations in locating future plants, officers here said.

Complete reports of the discussion on "alky-gas" at the recent Midwestern Conference on Agriculture, Industry and Science held in Omaha may be found on page 19 of the NATIONAL PETROLEUM NEWS for March 17.

During the 1936 drouth source material for alcohol production was scarce in the Atchison region. The company used milo maize, kaffir corn, corn, oats, barley, rye, molasses, rice and sweet potatoes to obtain the alcohol produced to date. A small quantity of Cuban molasses was tried. It was found superior to the Louisiana molasses, used by the plant part of the time, but the latter yielded approximately as good results with the addition of yeast, it was said.

The raw material to be used this year depends, of course, on the quantities of crops raised in the Atchison region. The Chemical Foundation official said that about 1,000 acres in the region will be planted to Jerusalem artichokes. They are not to be confused with the kind dipped in salad dressing and eaten by some people. The Jerusalem artichoke is a plant that grows about as high as a sunflower and may easily be mistaken for one, except that its blossoms are smaller than those of the official flower of Kansas and of the 1936 Republican party. In the fall the artichoke forms tubers underground and these are usable in an alcohol plant.

Jerusalem artichokes can wait for rain. In dry summers they will survive and grow to maturity after the fall rains come. The plant is planted in rows like potatoes and cultivated like corn. The tubers are dug after the first frost comes. The normal yield of Jerusalem artichokes is said to be 10 tons per acre.

It was about a year ago that the Chemical Foundation announced its intention of producing alcohol in Atchison. The Bailor Manufacturing Co., established years before to make farm implements, went into alcohol production in 1933 to keep the plant going as the farm machinery trade was then in a state of acute depression. The equipment installed in 1933 produced about 2,500 gallons daily. Some alcohol was shipped under revenue bureau rules as medicinal alcohol and some denatured and sold as radiator fluid. None was marketed for power purposes. The plant didn't operate very long in competition with the large producers who had been in business many years.

The Chemical Foundation increased the plant capacity, added anhydrous equipment and, after several months of building and experimenting, started production. According to reports made to the Kansas state department of registrations and inspections, which collects the gasoline tax, the company produced 5832 gallons of alcohol in October, 1936; 8007 gallons in November; none in December and 11,535 gallons in January, 1937.

The same department received also, under its regulations, reports of sales. These revealed that in October, 1936, the House of Gurney, Wood, S. D., bought 2469 gallons of Agrol fluid and the Power Fuel Co., Superior, Neb., bought 3731 gallons. The James Poultry Co., Atchison, in that month bought 4307 gallons.

In November, the state records showed, the Power Fuel Co. took 2500 gallons and the James Poultry Co. 1203 gallons. The December business reported to the

The Dickelman service station was one of the first to retail to motorists "Agrol," a blend of alcohol and gasoline. The blend went on sale simultaneously with the opening of the first Midwestern Conference of Agriculture, Industry and Science sponsored by the Farm Chemurgic Council

state comprised a sale of 4000 gallons to the Square Deal Oil Co., Ames, Iowa. In January, 1937, only small lot shipments were reported, largely samples shipped to dealers and jobbers for tryout of the fuel.

Composition of the Agrol fluid was described in a report to the Kansas department signed by Dr. Leo M. Christensen, secretary-treasurer of the Chemical Foundation of Kansas.

He reported that on Oct. 2, 1894 gallons of "impure, anhydrous, S. D. 28-A alcohol were delivered from the denaturing plant of the Bailor Manufacturing Co. to its fuel compounding plant. To this were added 60 gallons of approved wood alcohol, 38 gallons of hydronol, one-tenth gallon of mixed isonitriles and 1894 gallons of gasoline." That is approximately a 50-50 blend of gasoline and alcohol that makes up the Agrol fluid.

"Tests have been made," the report continued, "of the Agrol 10 motor fuel (20 per cent Agrol fluid and 80 per cent gasoline) sold by the James Poultry Co. These tests and observations show that the alcohol blend marketed has contained 10 per cent of the alcohol; that is, 20 per cent of Agrol fluid."

At the offices in Atchison the writer was told that the company plans to arrange through marketers to offer three grades to the public. Using a 62-63 octane gasoline, 5 per cent of the alcohol would bring the fuel to about "Q" grade; 10 per cent would bring the octane rating to about half way between "Q" and ethyl gasolines and the addition of 15 per cent alcohol would make the blend the equivalent of ethyl. If a lower octane gasoline is used to begin with, more alcohol is needed to raise the rating to "Q" or higher. The company official said it should be the policy of dealers to sell the lower grade at prevailing prices for standard or "regular" motor fuel, the intermediate grade at a one-cent premium and the highest grade at ethyl prices.

The company does not want the material used as third grade or cut price fuel, officials said. Alcohol-gasoline blend fuel, it was asserted, must be sold on quality. Stated advantages are that it is an anti-knock fuel, that it is a gum solvent and that the affinity of alcohol for water prevents any water in the gasoline from settling.

In the Atchison area the blend marketed during the cold weather was said to be 5 per cent alcohol. Initial boiling point of the gasoline is raised about 2°, using 5 per cent alcohol, it was said. Reid vapor pressure is increased only slightly, taken at 100. Peculiarly, the end point is lowered about 5° in the 5 per cent blend. A possible explanation for this is that polymerization occurs on the heavier ends of gasoline ordinarily and alcohol tends to inhibit this action.

The official of the Chemical Foundation said owners of cars whose engines were badly gummed and knocking have been repeat customers for the blend. Inquiry among jobbers and distributors in Atchison revealed no serious objections, although one questioned the anti-knock claims. Another jobber said some users of the fluid complained scale and dirt in their automobile tanks was loosened by the alcohol and clogged the feed-lines. This objection, he said, applied to older cars.

There has been a little hitch with the internal revenue bureau over the kind of denaturant to be used. The Chemical Foundation's denaturant, called isonitrile, is patented. Its principal components are chloroform, amine and potassium hydroxide. It was explained that no chlorine goes over into the finished denaturant. The revenue bureau prefers sulphur compounds, but sulphur is just what the alcohol makers don't want to put into motor fuel.

The future of the enterprise has not been announced, except that the Atchison plant is about as large as the Chemical Foundation has in mind for any locality. It was hinted that others are contemplated for several points in the middle west. The work to date has been largely experimental and includes improvement in still design and development of the continuous cooking process.

AGROL
5
AGROL
FUELS FOR MODERN MOTORS
*New Scientific Alcohol-Gasoline Blends*
*Made from American Farm Products*
ON SALE TODAY
IN
OMAHA
AT THE FOLLOWING STATIONS:
SMITH SERVICE STATION
6501 Railroad Ave.
DICKELMAN SERVICE STATION
23d and M Sts.
STOCKMAN SERVICE STATION
32d and P Sts.
RAABE & CARLSON
30th and Belt Line
RICKS BATTERY & TIRE SERVICE
4615 So. 24th St.
CASH FEED & PRODUCE
9202 North 30th St.
SEARLE PETROLEUM CO.
17TH AND NICHOLAS STS.
*Omaha Distributor of*
AGROL

This quarter-page advertisement of the Searle Petroleum Co. appeared in the Omaha newspapers to herald the retailing of the "alky-gas" blend at six stations

GLOBE'S sales building plan is made to order for the Independent Jobber. It promotes you in your own community—builds you up in your home territory. Home owned jobbers, under the Globe banner, increase their gallonage and profits. Let us tell you the complete story. It will pay you to get in touch with us. Write, phone or wire for complete details. Do it now!

# THE GLOBE OIL & REFINING CO.

## PRODUCERS AND REFINERS

**SALES OFFICES**

UNION NATIONAL BANK BLDG., WICHITA, KANS.
59 EAST VAN BUREN STREET, CHICAGO, ILL.
2424 UNIVERSITY, S. E., MINNEAPOLIS, MINN.

**REFINERIES**

McPHERSON, KANSAS
BLACKWELL, OKLAHOMA
LEMONT, ILLINOIS

Globe GASOLINE

KEEP ROLLIN' WITH GLOBE

# Day at Hand For the Jobber to Run His Own Stations

THE oil business is composed of a number of different kinds of business men, holding various opinions as to the most profitable method of operating a marketing company. One opinion is typified by a jobber who desires to escape the limelight of publicity through withholding use of his name, but who holds strong convictions regarding the jobber continuing to operate his own service stations.

Other jobbers may choose to differ with this marketer's opinion regarding station operating methods, but in view of his well intrenched position and record in his home community his ideas on marketing command attention.

With major companies leasing their company owned stations, this jobber believes the jobber's field lies in operating his own stations. This individual has looked into the situation, studying current standards of service at stations, credit rating of lessees, and whether lessees are making sufficient profit to produce the urge to consider station operation a permanent job (the rate of turnover in lessee operated stations is great, he reported) and arrived at his present convictions.

### Can "Go To Town"

The time is at hand, in his opinion, for the jobber to operate his own service stations, not to lease or turn greater business efforts towards wholesaling, and with a high standard of service in competition with what he claims are lowered standards now, to "go to town."

For the jobber who has over expanded and has unprofitable outlets this marketer advises facing the facts. By facing facts he means taking the loss right on the chin, if real estate appreciation has not been sufficient, by closing out poor stations, and selling the real estate. Then the jobber can concentrate on his good stations.

This jobber's own business illustrates his personal convictions. His set-up consists of a bulk plant, two company operated service stations, and some wholesale business, which is only, however, about 5 per cent of total sales. All business is done right in the corporate limits of his home town.

Service standards at his own stations are high, and for the jobber he recommends a service standard "more rigid than the Ten Commandments."

"Why deviate from a standard of service?" he questioned. "The men would not stand for our taking a Five Spot out of their pay envelope so why let them get away with taking anything off our service standard?"

### The Service Standard

In establishing a service standard—how the customer is to be treated in the station and intelligent sales effort—this jobber has worked in two directions. One is through the customer. The other is through station salesmen.

The point in presenting the company's service standard to the public is to let the public know what it should expect at this jobber's stations and if it does not receive this type of service to let the company know about it, quick.

The public is informed of this program through newspaper advertisements and radio programs. The radio is used only when the jobber can do the talking. He does not announce musical numbers, just the commercials interspersed with the program. The commercials are seldom on products, mainly on service.

Incidentally, this jobber keeps the name of this company before the public through what he terms "every legitimate advertising means." Station salesmen are not sent out to sell, after hours or during the day. Salesmen are expected to let friends know where they work and to have such business come into the stations, but the company's hours are 48 a week and the jobber believes that, if a man has given customers the accepted standard of service eight hours daily, six days a week, he has done his job.

### Newspaper Ads Used

This jobber has been a consistent newspaper advertiser and is proud of his record. His company has had an ad in the local daily newspaper at least once a week since 1924. These advertisements range all the way from daily four-column inch insertions at intervals to a series of full pages in colors.

The company also has billboards, several along the highways about two miles out of the city, and direct mail campaigns. Direct mail publicity is departmentalized for tires, batteries and lubrication. Mailings are planned well in advance. Some advertising material furnished by suppliers is mailed out, but three fourths of all mail pieces are written and designed by the jobber.

Establishment of service standards and selling through employes is the result of a rigid process of selecting and training men. No man is considered a full fledged salesman until he has served a year of apprenticeship.

### Employe Requirements

To get a job with this jobber a man must meet two requirements. First, he must have a good credit record when employed and the credit record must be kept good. "There is plenty of hell if any merchant friend up town calls me about any of my men not paying bills," he remarked, to emphasize the point.

The second requirement is that the man must have no previous oil industry experience. "We don't want them telling us how to run our business in three weeks," he commented.

After a man is accepted he reports first to the jobber for a personal interview. The jobber may spend two hours or a whole day with the man. Important features of the company's service are gone over, such as the employe's personal characteristics, how to address customers and the speed of waiting on customers. The jobber deliberately tries to make the man feel like quitting by holding up the high standards he must meet.

The man then goes to the station on 30-days probation, but having made a firm date to return to the jobber's office at the end of these 30-days for a heart-to-heart talk, each telling the other frankly how they are going to get along.

### No "Canned Talks"

The company, incidentally, does not give a "canned" sales talk to its men. The men are assumed to have the intelligence to develop their own short, snappy phrases in line with the generalities on selling given by the company, and to take the gasoline order. Note that gasoline orders are taken, other lines of merchandise are sold.

For the first six months a man is in the station he is in the background. This means doing mostly service work, observing, and asking older men about the customers, their names, who they are, how they buy and so on. The second six months the new employe comes into the foreground, actually selling and making his way under his own power.

At the end of the year there is an accounting. The new man is either a full fledged salesman, or he is told frankly that he can stick around as long as he likes at the same rate of pay but to come to the office like a man, when he begins looking for another job so the company can be on the look out for a replacement.

The jobber has two contact methods with his stations. One is a personal visit, usually twice daily. The other is through the men in charge of the shifts, who make a verbal report to the jobber once a week about the men. If there is an event that requires immediate attention the man in charge of the shift calls the jobber by telephone.

### Flat Salary Paid

As for rates of pay, the company pays a flat salary, no commissions. When a man is hired he is given a wage, based on age, size of his family and any previous experience, such as mechanical knowledge of automobiles. The jobber does not have an established starting wage.

If the man is coming along all right he is given a $5 raise at the end of the 30-day probation period. If the man is consistently above the minimum requirements of

APPROXIMATELY

# 1/2

# THE WEAR IN NEW ENGINES

The Research Department of The Institution of Automobile Engineers (London, England) has carried out a series of tests to compare the rate of wear in the cylinder of a new engine lubricated with plain oil and with oil containing "dag" colloidal graphite.

The total loss by wear, recorded by measurement on the piston rings, when oil containing colloidal graphite was used, was approximately 50% of that in the case of plain oil. The curves plotted for wear with plain oil and oil containing Acheson's colloidal graphite, "dag" Brand, showed a clear difference between the two lubricants, that for the latter being constantly about one half of the wear with plain oil.

It is very important to control wear in the new engine. Colloidal graphite does this while the engine is freeing itself. The working surfaces are also conditioned so that metal pick-up is reduced during running-in.

It has been mentioned that the conditions of the above tests accentuated the factors which give rise to wear in cold running. The tests were made to resemble road conditions where an engine stops and starts frequently, with much idling in between.

We will be glad to forward literature which gives more fully, the details surrounding the running of this test.

*Ask your oil supplier about his colloidal-graphited oils today*

ACHESON COLLOIDS CORPORATION
PORT HURON MICHIGAN

## Official Summary of Institution Report

*"A sample of running-in compound containing "Acheson's" colloidal graphite—"dag" Brand was submitted on April 4th, 1935, for test purposes with respect to its effect on cylinder and piston ring wear in a new engine during the running-in period. Comparative tests were carried out on a plain oil and on oils containing proportions of running-in compound recommended by E. G. Acheson, Ltd. An unused cylinder barrel and unused piston ring were used in testing each lubricant and the test procedure involved repeated starts from cold, so that a certain amount of cylinder corrosion probably occured. The results show that during the running-in period the wear with oil containing colloidal graphite was approximately half that observed with plain oil."*

*For and on behalf of*
*The R. and S. Committee of the I. A. E.*
*(Signed) C. G. WILLIAMS*
DIRECTOR OF RESEARCH.

REG U.S. PAT OFF.

**dag**

COLLOIDAL PRODUCTS

COPYRIGHT 1937, ACHESON COLLOIDS CORP.

# COLLOIDAL GRAPHITE

"DAG" COLLOIDAL GRAPHITE IS A 100% AMERICAN MADE MATERIAL

*N. P. N. says this is an advertisement but we say it's national petroleum news*

*Something of the clean, bright, thrifty quality of the great little nation, for which the U. S. city was named, is found in this Holland, Michigan, Service Station of the W. & W. Oil Co. Frank Weener and Martin Wiersma are the owners and operators of the company. They have been in the oil business for fourteen years, during the last four of which they have handled Phillips products and accessories*

# New Kind of Whispering Campaign

## Tells Jobbers Way to Larger Profits

HOLLAND, Mich.

IF THIS article were to start with flowery language, it might begin by mentioning how ripples spread in ever-widening circles on the pond into which a stone is thrown. Or it might in flowing words describe how mighty the little snowball grows as it rolls headlong down hill.

Good ideas need no such verbal inflation. They can be expressed very simply and they gain in impressiveness and convincingness by reason of their modest presentation.

It all started very quietly. Without shouting or raising his voice, a Phillips jobber said to another who was considering tying up with us: "This Phillips crowd is sure a great outfit to do business with."

Another of our jobbers replied to one of his friend's inquiries by saying, "No question about it; Phillips deserves its reputation for being one of the friendliest organizations in the oil industry." So the good word got around until the whispering campaign grew to great proportions. One jobber told another and thus developed the ever-growing circle of independent organizations which cast their lot with Phillips, a great independent in the industry.

Now Messrs. Weener and Wiersma add their voices to the chorus of praise. After writing a grateful letter reporting consistent gains in all branches of their business since taking on the Phillips line, they conclude with this straightforward statement, which leaves no doubt about their sincerity. They say: "Let us state in closing, that we are always glad to tell other jobbers about our success with Phillips products."

If you are considering a change, consider the fact that jobber after jobber constantly reports how satisfactory his dealings with Phillips are. Consider that the quality and resultful advertising behind Phillips 66 Poly Gas and Phillips 66 Motor Oil . . . hammered home to drivers by radio, magazines, newspapers, and billboards . . . have built remarkable consumer acceptance. Acceptance so strong that Phillips sales gains are the talk of the entire industry.

### Write for Facts and Figures

The success records of other jobbers like yourself are open to your inspection. We solicit requests for further information about the Phillips products and Phillips selling plan from good jobbers who are interested in building their volume and profits.

In all modesty, we believe that we have an amazing story for your consideration. Just ask us, and without obligation to you, we will outline exactly the kind of co-operation you can expect and will get. It goes without saying, that we gladly answer any and all questions, completely and promptly. Write, wire, or phone

**PHILLIPS PETROLEUM CO.**

***Bartlesville, Oklahoma***

Chicago Minneapolis Peoria
Indianapolis Des Moines
Omaha St. Louis Kansas City
Wichita Tulsa Amarillo

the job he may get another raise at the end of six months employment.

Commissions are not paid now as the jobber believes this method unfair if paid across the boards equally to all employes, and difficult to determine if paid to individuals. At one time the company did pay a commission but this led to arbitration cases as to who actually made the sale. The company never paid a commission unless a prospect card was turned in at the office but sometimes two prospect cards on the same customer would come in on the same day. So the way out of such arbitrations, which usually ended in splitting the commission between the men involved was to drop commissions, and pay flat salaries.

The company, also does not set quotas. The jobber believes that the quotas men set for themselves work out better than any handed down by the company. If they don't make their own quotas they have to alibi only to themselves. And the men usually set their own standard of sales and like to tell the jobber about their own sales standards.

As for credit this jobber has a strict policy and makes no bones about going after delinquent accounts or refusing credit. In spite of such a rigid policy the company does a large credit business, with over 1000 open accounts on the books now. A review of the company's credit record over the past ten years shows that with an average of 1000 accounts, unrecovered debts now are less than $2000.

In point of gasoline volume there are jobbers that have a bigger business than this jobber who believes the opportunity is at hand for the jobber who concentrates his efforts on several good company operated stations. Yet, this jobber's gasoline business is approaching 750,000 gallons a year, and not more than 5 per cent is wholesale, the balance moving through two stations.

One station employs three men and is open 16 hours daily. The other station employes 12 men, open 24 hours. And of all the gasoline sold in this city, through service stations, approximately 17 per cent passes through this jobber's two stations.

# OIL INDUSTRY

# *Finance*

N. P. N. News Bureau

CLEVELAND, March 22.—Oil companies, many of which reported moderate profits or even losses during 1935, almost without exception listed substantial profit gains in 1936 in annual stockholders' reports last week.

The tenor of these reports is reflected in the statement of W. T. Holliday, president of the Standard Oil Co. of Ohio.

"Fundamentally, the oil industry appears to be in a period of renewed growth," he said. "The statistical position of production, demand and inventories is substantially improved, and the effective control of crude oil production, barring unforeseen developments, promises to continue. The healthier conditions of supply and demand and the tendency toward reduction in excessive pipe line tariff rates tend, we believe, for the time being at least, to improve the general status of the refining-marketing branch of the industry."

* * *

### •Phillips Earnings Up

The net profit of the Phillips Petroleum Co., Bartlesville, Okla., for 1936, after all charges, was $4.22 per share on the average number of shares outstanding, according to the report of Frank Phillips, president. This figure compares with $3.23 per share in 1935 and $1.38 in 1934. Net profit for 1936 was reported at $17,875,489, the highest in the last 10-year period.

Gross operating income was $105,075,172, 13.3 per cent in excess of the previous high record for the concern of $92,748,872 in 1935. This latter amount was a 19.5 per cent gain over 1934. Gross operating income figures were exclusive of intercompany transactions or taxes collected on the sale of products.

Phillips Petroleum continued its bond retirement policy to reduce its interest cost one and a quarter million dollars.

Phillips drew an interesting comparison when he said the total dividends paid during the year were $10,676,356. The total amount paid to labor during the same period, he said, was $17,303,834.

In his statement on the general condition of the industry, Phillips commented: "Total crude oil stocks decreased 26,671,000 barrels during the year to 288,184,000; about 90 days' supply and the lowest since 1922. The demand for domestic crude and all products increased 10 per cent over 1935. The gasoline demand increase was 9.5 per cent."

* * *

### •Standard of Nebraska

A. H. Richardson, president of the Standard Oil Co. of Nebraska, Omaha, announced in his annual report for 1936 a net profit of $74,326, compared with a net loss of $20,919 in 1935. The net loss was $624,314 in 1934.

Operating income of the company during 1936 showed a profit of $169,123 as compared with $98,626 in 1935 and an operating loss of $454,796 in 1934. These figures do not include depreciation reserves.

Total assets on Dec. 31, 1936, were about the same as the previous year and capital and earned surpluses, totaling $757,324, showed slight increase over 1935.

* * *

### •Panhandle Shows Profit

The net consolidated income of the Panhandle Producing & Refining Co., after all charges, was $154,405 for the year 1936 as compared with a loss of $26,009 reported for 1935, according to the stockholders report issued by Roy B. Jones, president.

During the year the company produced 438,527 barrels of crude oil valued at 97 cents per barrel. During 1935 the firm produced 400,635 barrels valued at 89 cents and in 1934 produced 411,980 barrels of crude valued at 92.8 cents. The concern's three refineries averaged a net income of $.047 per barrel and the company's marketing division showed a loss of $3,746.

A plan for reorganization of the company has been filed with the United States District Court for the District of Delaware under Section 77B of the Bankruptcy Act.

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### I. A. T. M. Completes Program

LONDON, March 15.—The program for the International Congress of the International Association for Testing Materials in London, April 19-24, has been completed. All who are interested in the study and use of metals, building materials, textiles, paints, and other related subjects may obtain additional information and programs by addressing K. Headlam-Morley, 28 Victoria St., London, S.W.1.

There are three topics directly related to petroleum on the program, under the general head of Ageing. Dr. G. Barr (Great Britain) will speak on The Oxidation of Mineral Oils; Prof. A. R. Matthis (Belgium) will speak on asphalts, and Dr. J. Ph. Pfeiffer and Dr. R. N. J. Saal (Holland) will have a paper on Comparison of Various Methods for the Classification of Asphaltic Bitumens According to Their Temperature Susceptibility.

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### Pew Elected to Board

NEW YORK, March 20.—J. Edgar Pew, vice-president of the Sun Oil Co., Philadelphia, was recently elected to the board of directors of the American Standard Assn. He represents the American Petroleum Institute on the board.

With this association now are affiliated 60 national organizations, according to Dana D. Barnum, president.

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### Canadian Ethyl Sales

NEW YORK, March 20.—Canadian consumption of Ethyl gasoline in 1936 gained over 50 per cent over 1935, according to figures compiled by J. N. FitzGerald, Toronto representative of Ethyl Gasoline Corp. The rate of increase was more than double that recorded in the U. S. during the same period.

Total Ethyl gallonage in the Dominion reached the record figure of 69,296,132 gallons in 1936. Even greater gains are anticipated in 1937 as a broader market is developed.

# *Automotive* NOTES AND COMMENTS

*By* **JOHN W. THOMPSON**
**N. P. N. Staff Writer**

THERE is a feeling among some close to the automobile industry in Detroit that its present labor troubles will leave some company production schedules a little baggy under the eyes, and that as a result the 1938 cars will show few improvements. This thought, which is as speculative as a bride's first biscuit, is founded on the belief that the investment in tooling and equipment for making the 1937 cars is based on a certain production figure, and, not being able to meet that figure in 1937 due to strikes, the investment will be made to pay for itself during 1938.

An executive engineer of General Motors recently told a group of highway officials that the motor car of the immediate future is not likely to introduce radical changes in design. That remark, of course, may have absolutely no relation to the depressed production situation due to strikes, but the two really need no zipper to hold them together.

* * *

Then there's D. E. Anderson, chief engineer of the Bohn Aluminum & Brass Corp. (they make pistons and things), who says we may look for a new crop of smaller, lighter and considerably more efficient engines.

So there you are. You ring one door bell and they tell you no marked changes. Then you ring another and they say, "Oh, yes, there'll be some changes." It's unstable situations like this that are driving us to double chocolate sodas. There ought to be a committee appointed—or anyway a sub-committee.

But, to get on with Mr. Anderson, he says that the scientific design of the combustion chamber and the utilization of light alloys are manking it possible to produce engines with not only better fuel and oil economy, but which also have a much higher output of power per cubic inch of piston displacement than our present design. This new trend has already set in, according to Anderson.

* * *

Somebody is always trying to start an argument. For example, some correspondence school dairyman recently brought up the question—from which side should the cow be milked. He contends that when the cow is milked from the right side, the milk stays fresh longer.

That reminds us of the still popular argument on the relative merits of mild vs. powerful extreme pressure lubricants in hypoid axles. The only difference is that, whether milked from the right or left side, the cow's differential still functions properly. Not as much can be said for most hypoids.

* * *

Recalling the vast research and experimental laboratory equipment and resources available to such gigantic industries as steel, automotive, and oil, always brings to mind the contrasting simple tools to which men turn in working out problems that they have never before faced.

For example, in the steel industry, where millions of dollars are invested in research equipment, a new shearing idea was tested first by using a stick of chewing gum. The gum was inserted in the sample shearing device to determine whether or not it would curl when being cut.

Then, in our own industry, oil, where our vast laboratories are lined with test tubes, micrometric instruments, and other research devices, what did the research engineers do when they wanted to test the foaming characteristics of hypoid lubricants?

They turned to their local department stores and bought Sunbeam Mix-Masters. Now the Sunbeam Mix-Master, if you do not already know, has for some time been a favorite kitchen utensil for mixing up cakes and things.

Experience in whipping up hypoid lubricants on the Sunbeam Mix-Master has shown research scientists that Position No. 4 on the control knob gives best results. This has become accepted procedure.

Position No. 3 is permissible, but then the test would not come under the specifications set up by the American-Society-of - Sunbeam - Mix - Master - Control - Knob - Turners - To - Position - No. 4.

* * *

Crystal-gazing on the 1938 cars is particularly timely at this period in the year. For if our prophecies turn out to be correct, we can always refer back to them and say "See there". Then, if we have erred in our predictions now, you will have forgotten them by the time the 1938 cars are announced.

At this early date, it looks as though there will be a few more cars equipped with some sort of leverless gear shifting device. This development was supposed to have taken effect on the 1937 models, but somebody played a joke on the "downtown engineers" and the things didn't put in an appearance. However, we again ask your indulgence in 1938.

There is also a little talk over the back fences that Ford will offer two cars in 1938; one to be a size comparable to his present one with the 85 horsepower engine, and the other to be a smaller body for the 60 horsepower engine. It appears that the "one body with your choice of two engines" policy introduced in 1937 may be just a forerunner of the announcement of two separate cars.

Could it be that Ford is feeling out the water with its toes in 1937 before taking the plunge in 1938? This question is not a contest, so please do not send in any oatmeal box tops with your answer.

* * *

You have come this far without faltering, so now we reward your determination with a little intelligence test.

What car is represented by each of the following slogans:

"Watch The ——— Go By"

"When Better Automobiles Are Built ———Will Build Them"

"Ask The Man Who Owns One"

"The Only Complete Low Priced Car"

The correct answers are, of course, Ford, Buick, Packard, and Chevrolet.

A survey, conducted by a market research organization, Facts, Inc., in which 639 individuals in various parts of the country were interviewed, showed some interesting slants on the impression-ability of slogans.

On the Ford slogan, 94 per cent gave the right answer. The Buick slogan was 90 per cent recognized; 83 per cent scored a hit on the Packard trade line; and the Chevrolet line received 72 per cent recognition.

No other slogan was identified correctly by as many as 60 per cent of the group. So, you see?

* * *

Despite the fact that last year the rubber industry played teetor-totter and other playground games with the unions, it emerged with the best record since 1929.

We have it from no less an authority than J. D. Tew, president of the B. F. Goodrich Co., that tire sales in 1936 approximated 52,000,000 units, as compared with 49,000,000 units in 1935. For 1937 Tew estimates that this total may reach 54,000,000 b.p.a.s. (barring possible automotive strikes).

It was stated that the 1936 increase was due primarily to three factors; improvements in general business conditions, elimination of price wars within the industry, and increased production of automobiles and trucks—and, we might add, punctures.

Developments on farms which have been receiving financial New Deal encouragement, indicate that more and more of the 25,000,000 tractors and implements are being made more efficient by the application of rubber tires.

Goodrich engineers claim the credit for the perfection of one of the recent achievements of the rubber industry—rubber de-icers for transport planes.

Rubber industry leaders look to the future, confident that the present has only scratched the surface for the discovery and sale of new rubber products. This is the standard form of prediction used by leaders of various industries each year. It is quite effective as an optimism spreader, promises nothing, and looks well in print.

# A Pittco Station Front ASKS for BUSINESS

## . . . and Gets it!

A MODERN, attractive Pittco Station Front speaks a language of its own. It says to potential customers: "Look at me. I'm the sign of a progressive service station. I'm inviting, good-looking. I promise fair prices, courteous service. Drive in . . . you'll find us as satisfactory as we look!"

By inviting motorists to enter your station, a Pittco Front asks for business. And the fact is . . . it gets business, as proved by hundreds of stations throughout the country. It widens your trading area for you, attracts the tourist trade, increases business volume, boosts your unit of sale, builds bigger profits.

Put a front on your service station that asks for business. Our staff of experts will gladly cooperate with you and your architect in planning it. Meanwhile, send the coupon for our free book. It's filled with facts, figures and photographs in connection with Pittco-modernization everywhere.

**Be sure to see the Pittco Store Front Caravan, now on a nation-wide tour. Contact our local branch for specific information as to when it will visit your territory.**

**PITTSBURGH TIME PAYMENT PLAN**

Take up to 2 years to pay for your new Pittco Front. Pay 20% down, then settle the balance out of income.

Paint. PITTSBURGH. Glass
PLATE GLASS COMPANY

**Here's how a new Pittco Front dressed up a service station in Wytheville, Va., and made it ask for business. Put a Pittco Front on *your* station . . . and find out what a powerful factor it can be in building a better gas and oil business for you.**

PITTCO
STORE FRONTS
*glass . . . metal . . . paint*

CARRARA STRUCTURAL GLASS • PITTCO STORE FRONT METAL • PITTSBURGH PAINTS
PITTSBURGH MIRRORS • PITTSBURGH POLISHED PLATE GLASS • TAPESTRY GLASS

Pittsburgh Plate Glass Company,
2301 Grant Bldg., Pittsburgh, Pa.

Please send me, without obligation, your new book entitled "Producing Bigger Profits with Pittco Store Fronts."

Name.....

Street.....

City..... State.....

# New Equipment

## AND THE MANUFACTURERS

### Pipe Clamp

Clamps for permanently stopping leaks in pipes of any size while pipelines are in service have been radically redesigned by the M. B. Skinner Co., South Bend, Ind. These clamps are available for stopping leaks in gas, steam, gasoline, oil or other types of pipelines at any pressure.

Increasing demand is given as the reason for new specifications of stronger metals for these clamps, it is said.

* * *

### New Brochure On Greases

A new brochure, entitled "Bat's Lubricating Greases Preferred * * *" has been issued by Battenfeld Grease and Oil Corp. of Kansas City. The brochure stresses particularly the H. M. P. (High Melting Point) type of grease manufactured by that company. Greases for all purposes are discussed, their properties, the service to be met, testing and manufacturing methods used, recommendations for all types of service greases, and industrial and miscellaneous products recommended for a large variety of purposes are included in the manual.

* * *

### Nickel Alloy Steels

The International Nickel Co., New York, has issued a bulletin of applications of nickel alloy steels in petroleum production equipment, including drilling tools and accessories, rotary chain, draw works, rotary machines, crown and traveling blocks, rotary swivels, slush pumps, well-control equipment, and sucker rods.

* * *

### Heads Spring Company

Election of Colonel Williard F. Rockwell, president of Pittsburgh Equitable Meter Co., Pittsburgh, to the chairmanship of the board of directors of the Standard Steel Spring Co., Coraopolis, Pa., has been announced. The company is said to be the largest manufacturer of automobile springs and has other plants in Racine, Wisc., Gary, Ind., and Allegan, Mich. He is president of a number of other companies also as well as active in military affairs.

* * *

### Flow Meter

New Cochrane Corp. publications 2094 and 2540 have just been published describing the mechanical flow meter and means for the prevention of corrosion by feed water.

Cochrane flow meters embody three fundamental features. These are the application of the principle of the response to difference in pressure by a mercury seal in a U-tube. the principle of weighing by a beam balance, and the use of torsion tubes as a solution of the stuffing box problem.

Prevention of corrosion by complete removal of oxygen and dissolved gases from feed water through the use of the Cochran Deaerator, is discussed in publication 2540. The construction of the Deaerator, the process of deaeration, basic requirements, and various advantages of the apparatus are described.

* * *

### Voltage Changer

A tamper-proof voltage changer for gasoline pump motors has been announced by the Leland Electric Co., Dayton, Ohio. Inside mechanism is revealed only by using a wrench to unscrew a cover cap.

* * *

### RoL-TOP Doors

A new bulletin (No. 12) has just been issued by Kinnear Mfg. Co., Columbus, Ohio, on wood RoL-TOP doors for private garages. These doors feature ease of opening in all kinds of weather and convenience in being out of the way and out of sight when open. Standard and de luxe models in several sizes and designs are available.

* * *

### Sodium Floodlighting

Recent tests of sodium vapor floodlighting on the front of the Westinghouse engineering building at Bloomfield, N. J., indicate a rapid increase in the use of this type of lighting, according to W. W. Wildeman, Westinghouse engineer, because of higher efficiency and characteristic color.

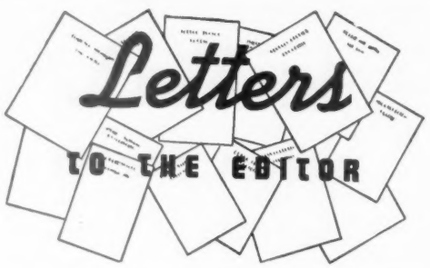
Approximately 800 watts are used at Bloomfield to illuminate a concrete facade of some 12,000 square feet, 100 feet away. With a total of 40,000 lumens of light, these lamps produce the same intensity as approximately 2000 watts of filament lamps, it is said.

* * *

### Trucks

Streamline style and design is being brought to the low-price truck field with the introduction of the new Indiana truck models 86 and 87, according to F. T. Macrae, Jr., vice president of the Indiana Truck Division of White Motor Co.

Both models will be powered by Hercules six-cylinder JXB engines of 263 cubic inch displacement. The L-head type monobloc engine, with clutch and transmission in a unit power plant, has an A. M. A. rating of 31.54 Hp. The Model 86 is rated at 1-1½ tons while the 87 is rated at 2 tons.




**Dear Editor:**

In reading your editorials from the Feb. 10 issue of NATIONAL PETROLEUM NEWS, and your special letter on that subject of Feb. 26, I am reminded of an article which I recently read in which a well known war-time aviator said that, if he wanted to paralyze the country, the first thing he would do would be to bomb the refineries; second, the bridge heads, and third, the steel mills. That about tells the story. He was speaking of G. I. Cans. They are very destructive from a physical standpoint, of course.

Now Mr. Lewis, no doubt, has somewhat the same ideas and his G. I. Cans are in the form of insidious workings, mostly through foreign born emissaries, who slip surreptitiously to join the working force of traditionally American industries. Shortly the thing is ripe and Mr. Lewis picks his plum.

Mr. Lewis, of course, can work to the point where he can paralyze the food supply, raw material supplies—to where he can choke the American people, unless industry will take the bull by the horns, and tell its own story to its own people, in its own way. I believe that Mr. Bruce Barton has spoken on several occasions on this very subject, and I think it is high time that employers take their employes into their confidence, and tell them exactly what the overhead is, and what proportion of actual money they get in return for an hour's honest labor.

Where they are making too much money it is obviously up to them to make an adjustment in which their employes can participate. Where they are not making enough money in view of the fact that they might buy A. T. & T. bonds, and make more, it is up to the employes to reciprocate by offering to be equitable until such a time as greater profits are available and subsequently greater wages. If we are to become a nation of clock-watchers, under Mr. John L. Lewis, or any other gentleman of his ilk, then perhaps it would be well for us to drag out that old volume in which we find Lincoln's Gettysburg Address, and by the simple interpolation of words "economic and social" where he used "great war" and "battlefields" we can readily see that Mr. Lincoln's Gettysburg Address is today apropos to everything we are thinking and doing and combating.

I sent to Mr. Wesley Stout the new Editor of the *Saturday Evening Post*, a copy of the Lincoln's Gettysburg Address, thus marked and you'd be surprised at the fact that it took about five words in different spots to make the thing read entirely apropos to today's problems.

Why couldn't you help to persuade the oil industry that, if they educate their own employes, Mr. Lewis hasn't got a chance. As to his ambition to become the President of the United States,—when the citizens of this country reach that low—that all-time low in political history then I think probably I'll follow Lindbergh.

With good wishes to you, Sir.

**C. E. McKinney, Advertising Manager**
**Erie Meter Systems, Inc., Erie, Pa.**

## "AUTOMOTIVE MONEY SAVING FACTS"

By J. F. WINCHESTER

A four hundred page comprehensive study of automotive fleet operation from a money-saving standpoint, relating to fleet management, personnel, selection of vehicles, their safe operation and maintenance.

A number of pages are given over to the essentials in accounting with consideration of the factors of insurance, depreciation, inspection and maintenance, and service records.

This book is authoritative—based on the author's experience as manager of the largest automotive fleet in the petroleum industry. $3.

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### Quick Detachable COUPLING

Where hose is the delivery medium from the truck tank to the underground tank . . . use this MORRISON Quick Detachable Coupling. Unusually speedy but makes a tight connection that cannot be jarred or shaken loose. Characteristic of all MORRISON Brass . . . it is extremely sturdy. In sizes of 1½", 2" and 3".

Write for FREE FOLDER and PRICES.

MORRISON BROTHERS COMPANY
Oil Equipment Headquarters
DUBUQUE, IOWA

## In Selecting a Source of Supply . . .

for your lubricating oil requirements covering the year 1937, it is necessary to bear in mind the following dominant factors:

*Reliability of supplier*
*Experience in meeting individual specifications*
*Desire to co-operate with purchaser*

This company comes under all the requisites listed above. Our four refineries and seaboard barrelling plant offer their modern facilities to take care of your individual needs. We specialize in both winter and summer oils as well as bright stock, neutrals, and high flash steam refined stocks.

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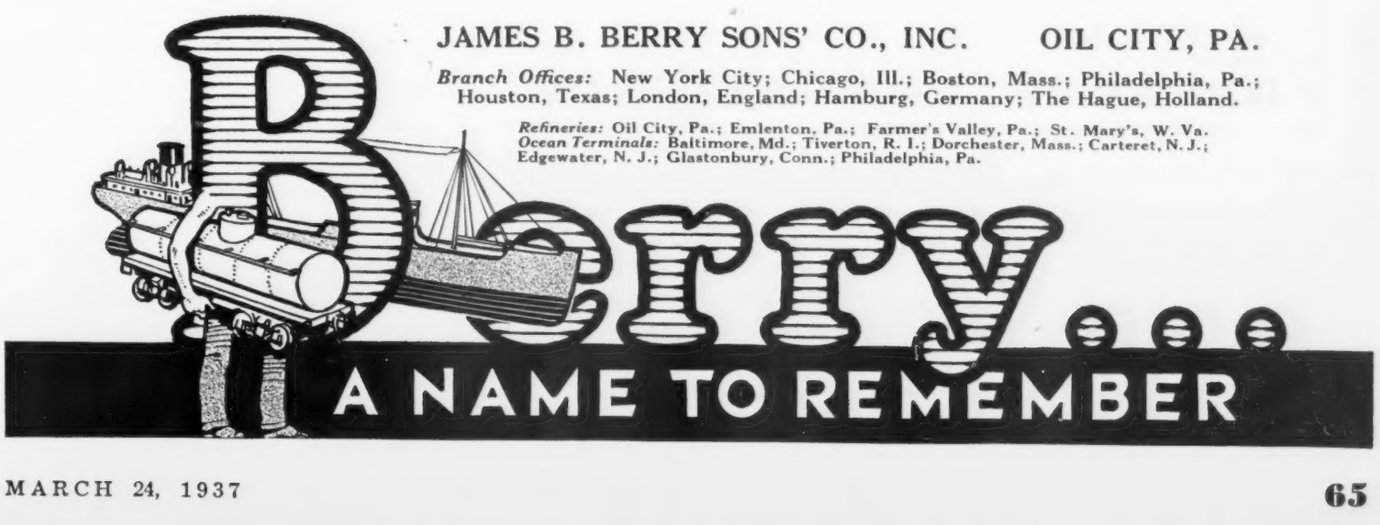
*Branch Offices:* New York City; Chicago, Ill.; Boston, Mass.; Philadelphia, Pa.; Houston, Texas; London, England; Hamburg, Germany; The Hague, Holland.

*Refineries:* Oil City, Pa.; Emlenton, Pa.; Farmer's Valley, Pa.; St. Mary's, W. Va.
*Ocean Terminals:* Baltimore, Md.; Tiverton, R. I.; Dorchester, Mass.; Carteret, N. J.; Edgewater, N. J.; Glastonbury, Conn.; Philadelphia, Pa.



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The following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

**Pub. Feb. 23, 1937**

GULF, Ser. No. 386,802. Gulf Oil Corporation, Pittsburgh, Pa. Filed Dec. 16, 1936.

For Auto Cleaner and Spot Remover.

JULES' HI-LI, Ser. No. 386,984. Jules Donshick, Oakland, Calif. Filed Dec. 21, 1936.

For Metal Polish in Powder Form.

SERRASOL, Ser. No. 384,885. Destileria Serralles, Inc., Ponce, P. R. Filed Oct. 28, 1936.

For Denatured Alcohol.

PARANOX, Ser. No. 385,369. Standard Oil Development Company, Linden, N. J. Filed Nov. 10, 1936.

For Inhibitor Employed in Motor Oils to Decrease Their Corrosiveness to Bearing Metal and to Lessen Their Tendency to Stick Rings, Form Sludge, or Otherwise Deteriorate as the Result of Oxidation.

MAJOR, picture of a major, Ser. No. 386,420. Empire Distilling Corporation of New York, Yonkers, N. Y. Filed Dec. 7, 1936.

For Anti-Freeze Preparation for Motor Vehicles and Heating Systems.

DIKTATOR, Ser. No. 381,939. Hall Hardware Company, Minneapolis, Minn. Filed Aug. 8, 1936.

For Lubricating Oils and Greases.

KAR-SKIN, Ser. No. 382,664. Louise Chalkley Given, doing business as The Cresson Products Co., New Hope, Pa. Filed Aug. 28, 1936.

For Waxes for Polishing Automobiles.

GLEAMAX, Ser. No. 386,958. National Solvents Co., Washington, D. C. Filed Dec. 19, 1936.

For Liquid Polishing Wax.

VAPO-FUME, Ser. No. 386,615. Tobacco By-Products and Chemical Corporation, Louisville, Ky. Filed Dec. 10, 1936.

For Parasiticides—Namely, Insecticides, Fungicides, and Plant Bactericides.

VAPO-FUME, written on a tobacco leaf, Ser. No. 386,608. Tobacco By-Products and Chemical Corporation, Louisville, Ky. Filed Dec. 10, 1936.

For Parasiticides—Namely, Insecticides, Fungicides, and Plant Bactericides.

LUBRITORIUM, Ser. No. 383,284. Hugo G. Reichert, Salt Lake City, Utah. Filed Sept. 16, 1936.

For Lubricating Oils, Gasoline, Cup Grease, and Gear Oil.

LUBAID, Ser. No. 385,609. L. J. Sauerborn, doing business as Lubaid Company, Milwaukee, Wis. Filed Nov. 16, 1936.

For Oiliness Concentrate to be Added to Oils and Greases to Increase the Film Strength of the Oil and to Cold-proof Oil and Grease, Penetrating Oil and Also Upper Cylinder Lubrication.

HYPOLUBE, Ser. No. 385,868. U. S. Oil Company, East Providence, R. I. Filed Nov. 21, 1936.

For Lubricating Oils and Greases.

PENN CITY, Ser. No. 386,815. Penn City-National Oil Co., Philadelphia, Pa. Filed Dec. 16, 1936.

For Motor Lubricating Oil.

# New Patents

Compiled by R. E. Burnham, patent and trademark attorney, 511 Eleventh street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering

**January 26, 1937**

**REFINING**

**Remote control system for oil cracking plants, and gauge line purging system for oil cracking plants**—Ralph M. Parsons, Mount Vernon, Ohio, assignor to Ralph M. Parsons Co. Filed Oct. 16, 1934, and Mar. 2, 1935. Nos. 2 068 695 and 2 068 696.

**Process of treating a petroleum oil**—Garland H. B. Davis and Jones I. Wasson, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed Dec. 8, 1934. No. 2 068 847.

**Process of improving gasoline**—Carleton Ellis, Montclair, N. J., assignor to Standard Oil Development Co. Filed Sept. 1, 1932. No. 2 068 850.

**Combined still and coil cracking**—Frank A. Howard, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed July 25, 1929. No. 2 068 856.

**Thermal treatment of carbonaceous substances** — Matthias Pier, Wilhelm Rumpf and Ernest Donath, Germany, assignors to I. G. Farbenindustrie. Filed Nov. 2, 1934. No. 2 068 868.

**Method of preventing corrosion in oil stills**—Gerald M. Fisher, Los Angeles, Calif., assignor to Socony-Vacuum Co. Filed Jan. 20, 1936. No. 2 068 879.

**Refining mineral lubricating oils**—William J. McGill, Alton, Ill., assignor to Standard Oil Co. (Ind.). Filed May 9, 1934. No. 2 069 170.

**Separation of gases, and refining hydrocarbon gases**—Clarke C. Miller, Wood River, Ill., assignor to Standard Oil Co. (Ind.). Filed Nov. 25, 1933. Nos. 2 069-172 and 2 069 173.

**Conversion of hydrocarbon oils**—Harold V. Atwell, White Plains, N. Y., assignor to Process Management Co., New York, N. Y. Filed Oct. 31, 1934. No. 2 069 191.

**MISCELLANEOUS**

**Oxidized "hydroformed solvent"**—Carl Winning, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed May 10, 1932. No. 2 068 834.

**Process of manufacturing hard bituminous materials**—John O. Collins, Cranford, N. J., assignor to Standard Oil Development Co. Filed Oct. 3, 1933. No. 2 068 845.

**Treating oxygenated organic compounds**—Per K. Frolich, Roselle, N. J., assignor to Standard Oil Development Co. Filed July 30, 1932. No. 2 068 854.

**Motor fuel blend and process of making**—Frank A. Howard, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Jan. 21, 1933. No. 2 068 857.

**Purifying alcohols by contact catlysts**—Raphael Rosen, Cranford, and Francis M. Archibald, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed June 13, 1932. No. 2 068 872.

**Metallic paint**—Robert R. Thurston, Scarsdale, and Raymond J. Ruble, Beacon, N. Y., assignors to Texas Co. No. 2 068-966.

**Light colored highly halogenated naphthalene and process of producing**—Ernest R. Hanson, Bloomfield, and Sandford Brown, Montclair, N. J., assignor to Halowax Corp., New York, N. Y. Filed Apr. 2, 1934. No. 2 069 183.


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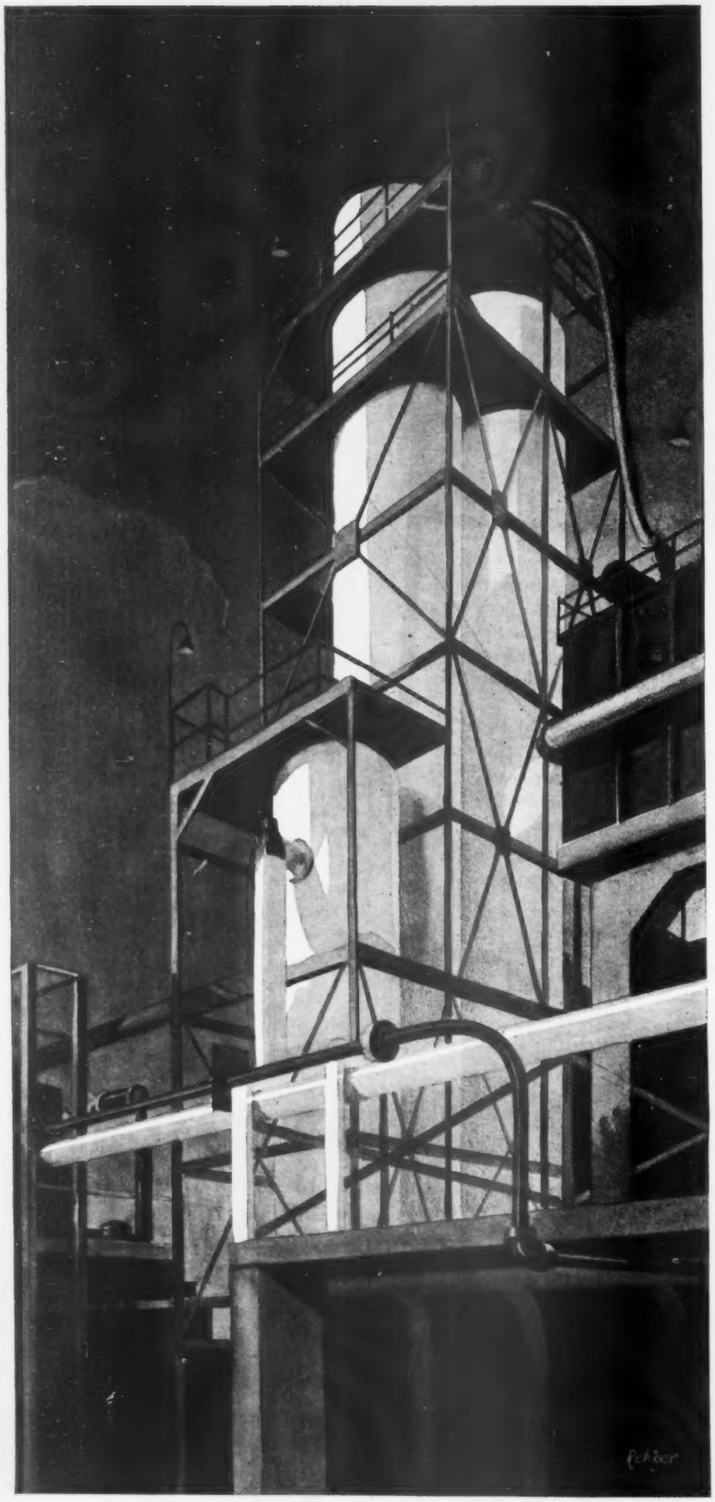
# THERMAL



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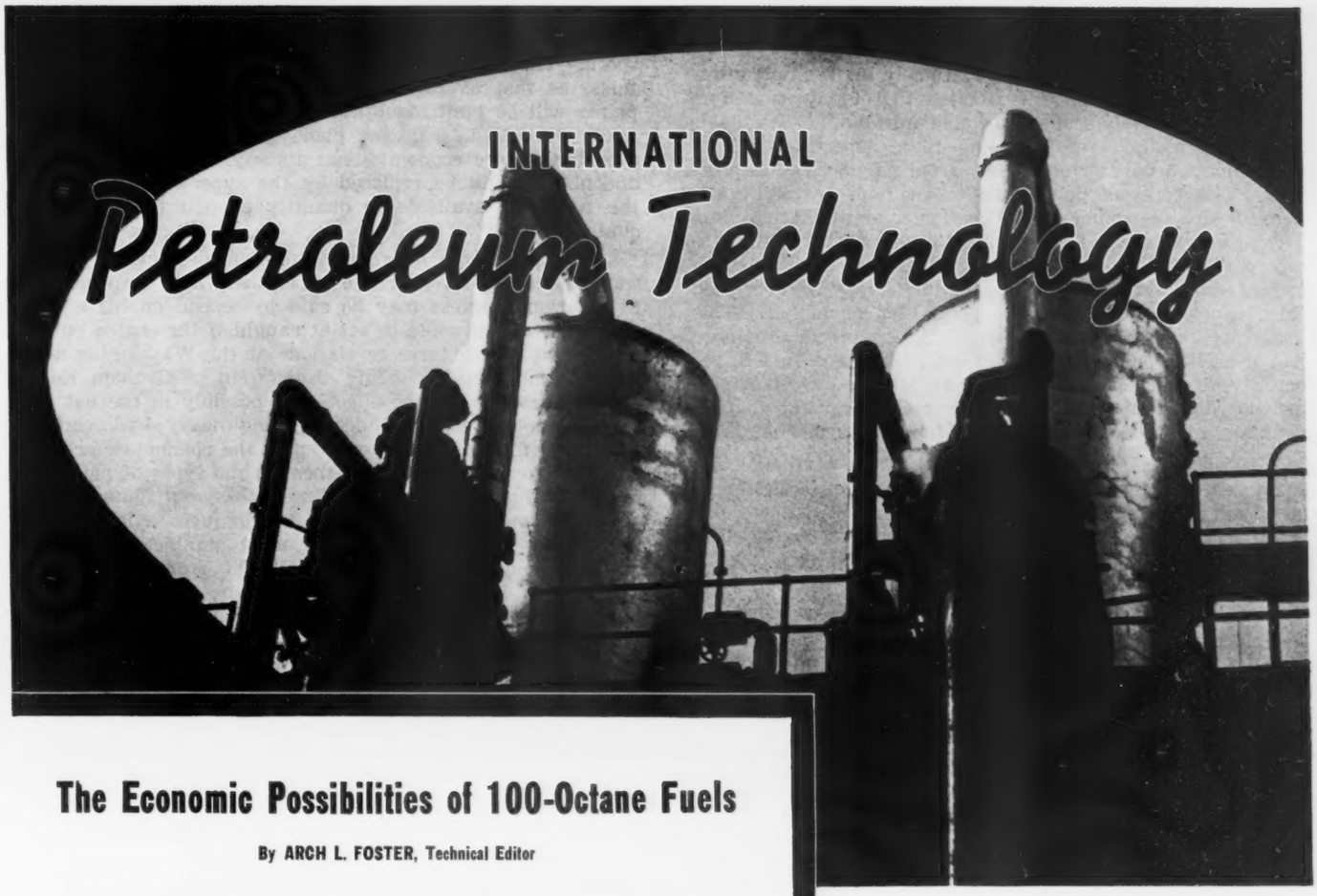
# POLYMERIZATION




# The Economic Possibilities of 100-Octane Fuels

By ARCH L. FOSTER, Technical Editor

● Dan Barnard and his colleagues blazed aviation's progress trail at the Society of Automotive Engineers meeting in Washington two weeks ago with no uncertain hands. The deduction that one gallon of 100 octane number aviation fuel can earn nearly 30 cents more than one gallon of 87 octane number fuel requires some thought and a large capacity for intelligent imagination before its full import can be accepted.

With such a margin of increased revenue to draw on, it needs little credulity to understand the efforts of refiners to develop commercial processes which make 100 octane number fuels a commercial reality. The only reason this work has not progressed at a faster rate is probably that the number of aviation engines which are capable of extracting this additional earning power from these super-fuels is small, and the engine builders themselves have numerous problems to solve before super-charged, higher compression engines are a production reality, available to commercial, military and private plane builders alike. When such fuels and such engines are universally available, the history of Kitty Hawk will assume an even greater significance.

Even now the crossing of the Atlantic by heavier-than-air machines is a hazardous undertaking, still a considerable distance from a commercial practicability, to judge from the present state of preparations for an air line to Europe. Spanning the three-times-as-wide Pacific is already a commonplace matter, carried out regularly by the big clipper ships. With power to lift enough pay-load off the Atlantic runways to finance operations, and a cruising range lengthened enough to reduce the chances of disaster to a minimum, the Atlantic airline seems just about waiting on our doorstep.

And we have ample facilities, plenty of technical knowledge already, to produce such fuels in almost any quantity for which the aviation industry may call for some time to come. Nearly a score of plants for the polymerization of hydrocarbon gases to produce 80 to 85 octane number fuels are now either building or have been operating for some time, a few of them for three or four years. Commercial methods for the hydrogenation of such fuels to yield 100 octane number aviation fuels have been in operation by two large oil companies—Standard of New Jersey,

## IPT Contents

**Advantages of Stratcold Process Demonstrated Commercially . . . by J. A. Altshuler, F. G. Graves, and E. S. Brown . . . . . 71**

A combination of two processes employed in acid treatment of pressure naphtha, namely, cold treatment and contactor centrifuge treatment, is used at Wilshire's new refinery. It is a three-stage counter-current system in which contactors disperse sulfuric acid with naphtha and centrifuges separate treated naphtha from acid sludge.

**Introduction to an Oilfield on the Peruvian Coast . . . by E. Phyllis Snyder . . . . . 78**

An oil well that put on a special show at Talara made one of the most exciting experiences of a 14-month tour of Peru and Bolivia. Life at a South American oilfield is found to be far from drab.

and Shell—for two years or nearly so. Others are being installed or are under serious consideration.

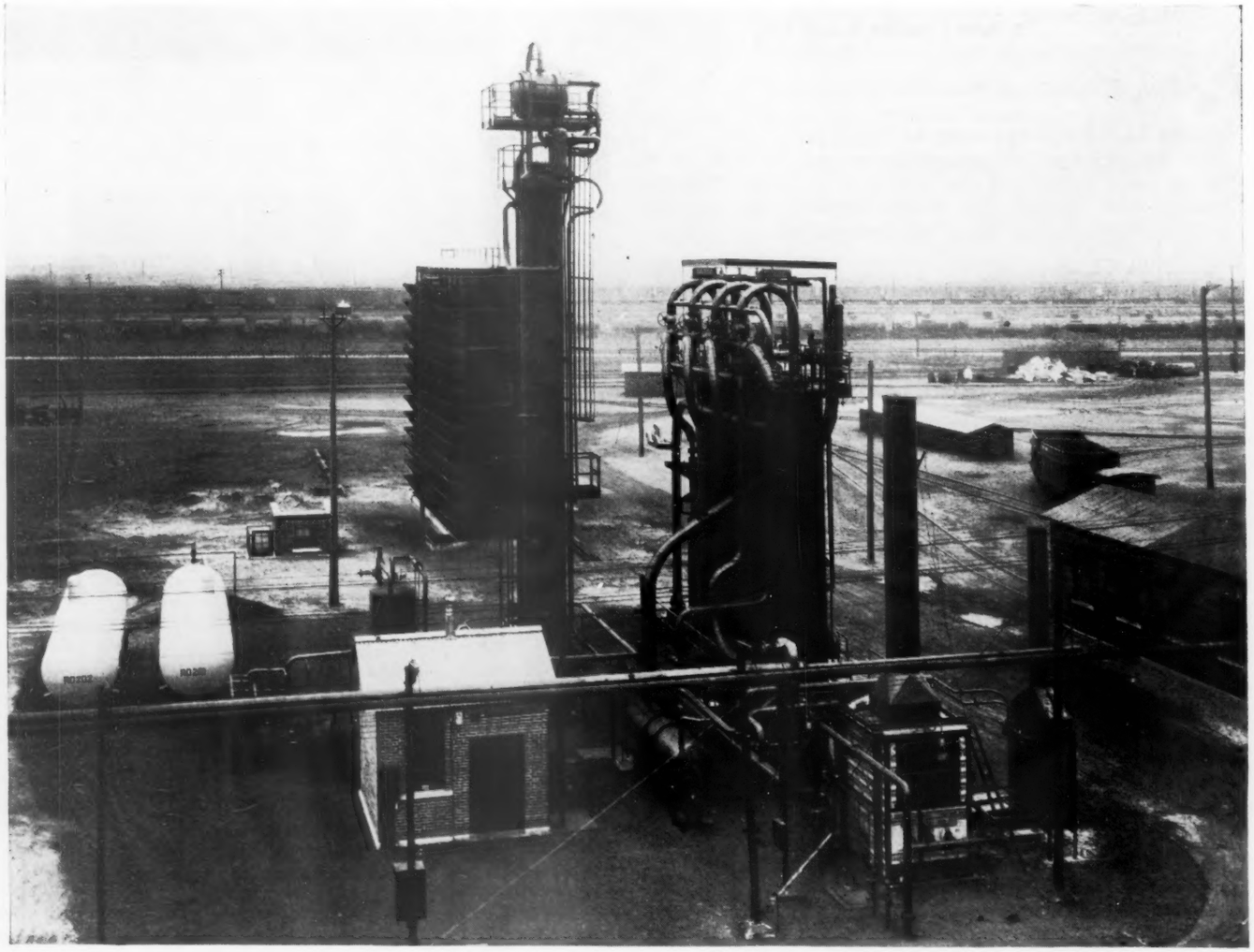
Hydrogenation processes at extremely high temperatures and pressures have been investigated thoroughly enough to show very definitely the remarkable advantages obtainable from those methods in producing these super-fuels, either in combination with or separately from polymerization processes. Two types of polymerization methods—catalytic and thermal—are in commercial operation, and we have reason to expect several more units of each type to be built within a year or so. By at least one method of thermal polymerization, aromatic hydrocarbon mixtures may be obtained which show octane rating as high as 100 or higher. This fiscal year the Air Corps of the U. S. Army will use more than a million gallons of 95-100 octane number fuel in research and experimental work, fuels produced by polymerization-hydrogenation methods. In case of war the tactical advantage of planes driven by such fuels is incalculable.

As always before the job is in the lap of the oil industry; without the fuels for which engines can be designed, the plane builders are practically stymied. Existing commercial engines cannot realize these advantages, because the engines are not designed to use all the anti-knock efficiency inherent in such fuels. Building 100 octane number fuels for 87 octane number engines is useless, a waste.

But the prospecting has been done or at least is well started. We have engine and plane designers fully capable of building engines to meet the situation; they co-operate willingly, and are digging into the problem at a gratifying speed. The refining industry must and will manufacture the fuels, as fast as process details can be worked out, and plants will be built, doubtless faster than the fuels are actually demanded. Existing plane engines cannot be junked overnight, there economics has its say. But they can and undoubtedly will be replaced by the super-engine, provided the fuels are available in quantity enough to insure adequate supply.

And again the oil refining technologist must lead the way, is leading it. For the time, the whole responsibility of aviation progress may be said to depend on his efforts. And these efforts could be set at naught if the engine builder falls down. With these revelations at the Washington aviation meeting, the far-seeing observation of Graham Edgar a few years ago, to the effect that possibly in the not distant future we shall be decomposing heavy hydrocarbons into very small molecules or even to the elements of carbon and hydrogen, and rebuilding them to the types of molecules most useful as fuels appears to be anything but fantastic.

These more recent developments in fuels, aviation fuels in this case, are doubtless the most significant and far-reaching achievement since the World War. And if, as known data indicate, fuels of 130 octane number and suitable engines are practicable or can be made so within a few years, even the possibilities of 100 octane number fuels, which now loom so large, will appear juvenile.



A 3,000,000 cubic feet catalytic polymerization unit, operating on refinery cracking still gases in the Midwest

# ADVANTAGES Of Stratcold Process Demonstrated Commercially

By J. A. ALTSHULER,* F. G. GRAVES,** and E. S. BROWN**

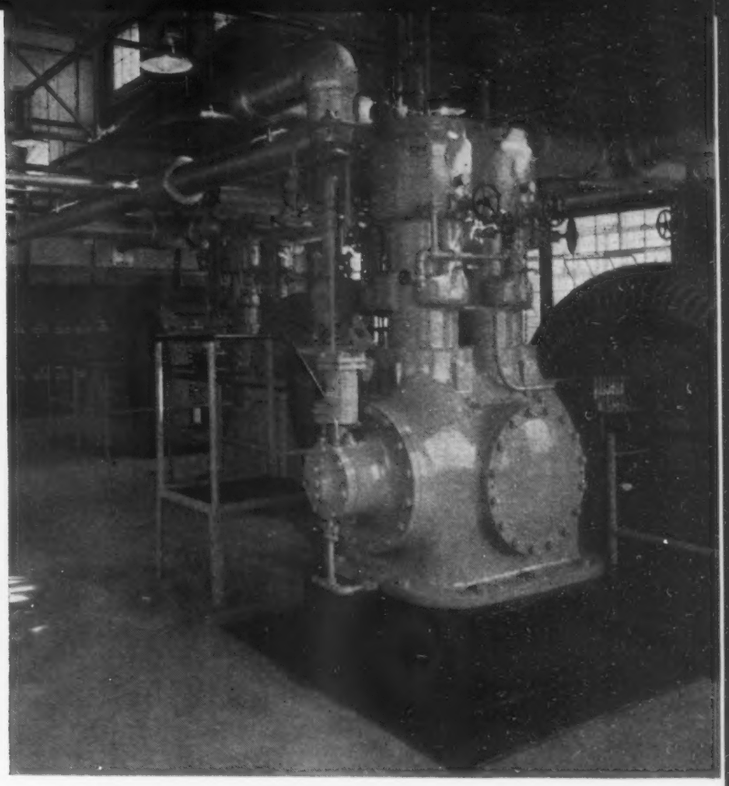


Fig. 2—Ammonia refrigerating plant

A STRATCOLD acid treating plant of latest design was installed as an integral part of the Wilshire Oil Company's new refinery, completed during the year 1936, at Norwalk, Cal.

This plant was designed for the treatment of 5000 barrels daily of cracked distillate manufactured in the latest type of Dubbs Full-Flashing cracking unit from a blend of Huntington Beach and Santa Fe Springs reduced crudes. Contactor-centrifuge treatment at controlled low temperatures was selected in order to meet the finished product specifications at lowest overall cost.

The basis of design of this plant was a combination of two processes well known in the commercial acid treatment of pressure naphtha; namely, cold treatment and contactor-centrifuge treating. Several unique features, as later described, were added to this combination. Fig. 1 is an outside view of the plant as a whole with its acid and soda supply blow cases, water wash, and soda neutralization equipment. The plant is divided into two parts, one housing the refrigerating equipment, as shown in Fig. 2, and the other the contactor-centrifuge acid treating equipment which is shown in Fig. 3.

The treating system may be readily followed from a flow sheet of the plant, Fig. 4. Briefly, the process is one of three-stage counter-current flow in which contactors are used for intimately dispersing and contacting sulfuric acid with the naphtha to be treated, and centrifuges are used for rapid separation of the treated naphtha from the acid sludge. Both of the preceding operations are carried out under controlled low temperature conditions, the heat of reaction being absorbed in the contactors as created.

In order to obtain most efficient treating results, this plant has been equipped with automatic control instruments for regulation of the naphtha feed to the unit, the acid and caustic soda feeds, and the temperature at which treatment takes place. Foxboro Stabilog control instruments have been used throughout, with control valves especially designed to operate on small quantities of chemicals. The method of temperature control will be included in a later description of the refrigeration cycle. Fig. 5 is a reproduction of a typical chart showing the control of acid fed to the system, and Fig. 6 is a typical temperature control chart showing the uniformity of regulation.

For the dispersion of the acid and its adequate contacting with the naphtha to be treated, high-dispersion refrigerating contactors are used. Mechanical energy is used in these machines to impart high velocity to the materials to be contacted and full advantage is taken of a plurality of changes of velocity and direction within the machine. The heat of reaction between naphtha and acid is absorbed, as created, by a tube bundle installed in the end of the machine. The cooling is provided by direct expansion of ammonia. A cross section of the contactor is shown in Fig. 7.

As a means of effecting immediate separation, the mixture flows from the contactor in each stage to four Stratco C-10 centrifuges (National Acme Co., Cleveland), which operate in parallel. A fifth centrifuge is provided in each stage as a spare. The centrifuges are direct driven by Louis Allis explosion-proof motors of special design and operate at a synchronous speed of 7500 rpm. In order to operate at this synchronous speed, high-frequency electric current is required. This is manufactured by a frequency changer included in the plant for this purpose. The centrifuges, shown in cross section in Fig. 8, are totally enclosed and vapor tight.

Owing to the nature of materials being handled; i.e., separated naphtha and acid sludge, special pumping equipment is necessary to make possible inter-stage and final pumping without vapor binding. Vertical centrifugal pumps are employed (Fig. 9) in which it is possible to satisfactorily vent the vapor released in the eye of the impeller to a vapor recovery system. The vertical pump is particularly applicable to this type of service, since none of the acid bearing materials are in contact with the stuffing box, which is in contact only with vapor under suction pressure. Rate of dis-

*Vice-President, Stratford Engineering Corporation.
**Research & Development Department, Standard Oil Company of California.

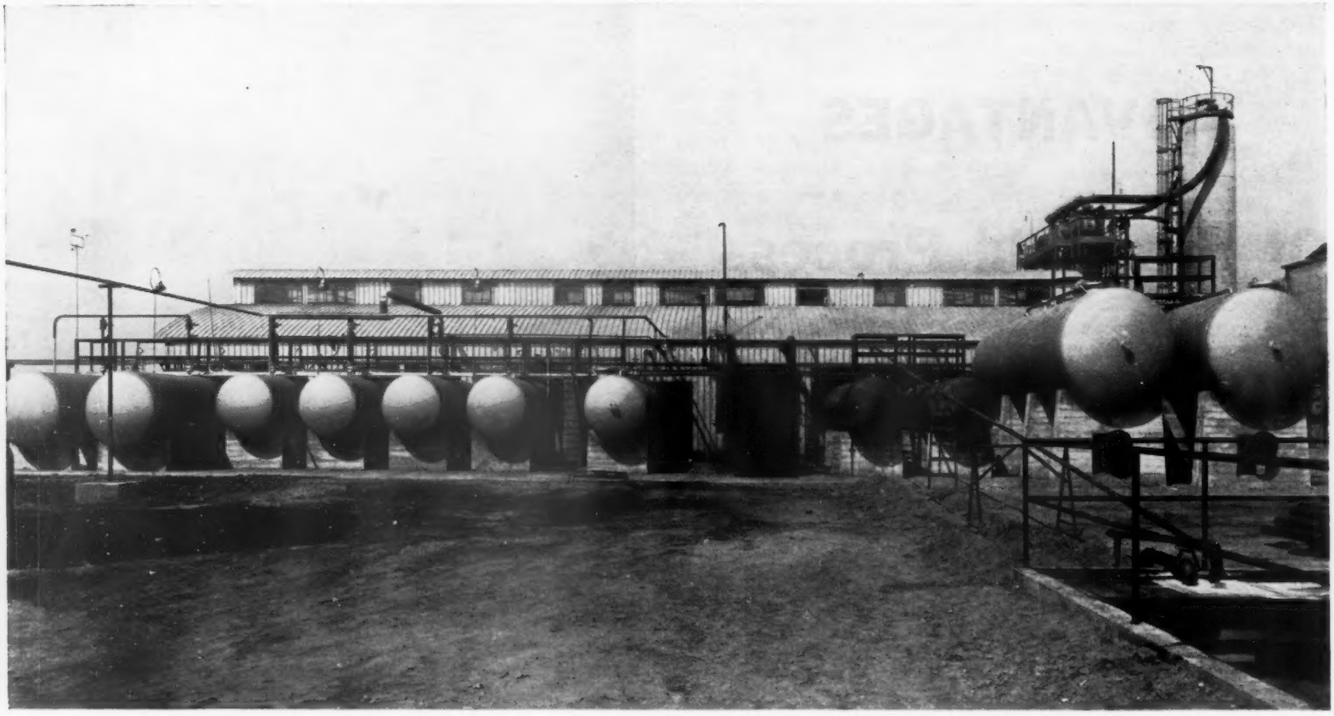


Fig. 1—Outside view Stratcold treating plant showing water washers, soda settlers and blow cases in foreground

charge of the vertical hydrocarbon pumps is regulated by flanged type liquid level controllers with which they are equipped.

## •Low Cost Refrigeration

The Wilshire treating plant was designed with very careful consideration given to providing optimum controlled temperature with least possible expenditure for ammonia refrigeration.

The refrigerating contactor makes it possible to absorb the heat of reaction as evolved, thereby raising the temperature level at which this quantity of heat is absorbed, resulting in an increased suction pressure on the refrigerating machinery. Elevated suction pressures of the compressors make possible increased capacity in tons of refrigeration per machine and materially reduced the electric power requirements per unit of refrigeration. To further reduce the power requirements, spray-type chillers were installed to provide excess transfer surface over the amount that it is feasible to install in the contactors.

Vertical pumps of the same design, as described for the inter-stage distillate and sludge pumps, circulate liquid ammonia through the cooling surface of the refrigerating contactors, after which the same liquid ammonia is used to spray-cool the distillate passing through the coils of the chillers. The vapor from both chiller and contactor is released to the suction of the compressor through a vapor liquid separating head in the top of the chiller. The desired temperature of the acid-naphtha mixture leaving the contactor is automatically maintained by a recording temperature controller. The valve of this instrument regulates the ammonia evaporation pressure within the chiller and consequently the temperature of the liquid ammonia circulating through the system.

Four York vertical ammonia compressors, with accessory equipment, do the refrigerating work required in this installation. They are arranged so that, under full design operating conditions, one pair of compressors driven by a common synchronous motor, provides the refrigeration required in the first and second stages of the treating plant. The other two compressors, individually synchronous motor driven, operate on the third stage (the fresh acid stage where highest temperature rise occurs). The compressors are built so that a portion of their capacity may be bypassed, if desired, and they are manifolded to make possible most efficient and flexible operation at varying throughput and acid rates.

Full advantage is taken of the low temperature of the outgoing treated naphtha by a battery of heat exchangers for reduction of the temperature of the charge to the plant to within approximately 15°F. of the temperature of the outgoing oil. The acid treated naphtha leaving the heat exchangers is thoroughly water washed in two-stage Everdur bronze water washing equipment and neutralized by means of two-stage soda application; in the latter operation, intimate contact is assured by the use of standard Stratco contactors.

## •Operating Results

After the completion of the acceptance test runs in August 1936, through the courtesy of the Wilshire Oil Co., arrangements were made to conduct a series of test runs covering a wide range of operating conditions.

The purpose of this program was to make a study of the effect of variables in plant operation on treating efficiency, stock losses, and reagent and utility requirements. A careful record was kept throughout of all operating conditions, temperatures, pressures, etc. Continuous composite samples of raw and treated stocks were taken during each test. Owing to the difficulty of segregating, in the refinery, stocks of any individual test run and for the sake of uniformity, all redistillations were made in the laboratory, using standard methods known to check commercial redistillation operation. The following is a brief discussion of the results obtained, facts established, and conclusions drawn from the test programs.

### Efficiency of Treatment

(Desulfurization-Gums-Color)

Typical results on treatment of a representative raw naphtha, containing 0.40% sulfur, are illustrated in Fig. 10. It will be noted in this figure, that in addition to the desulfurization required, plus 30 Saybolt color was obtained with

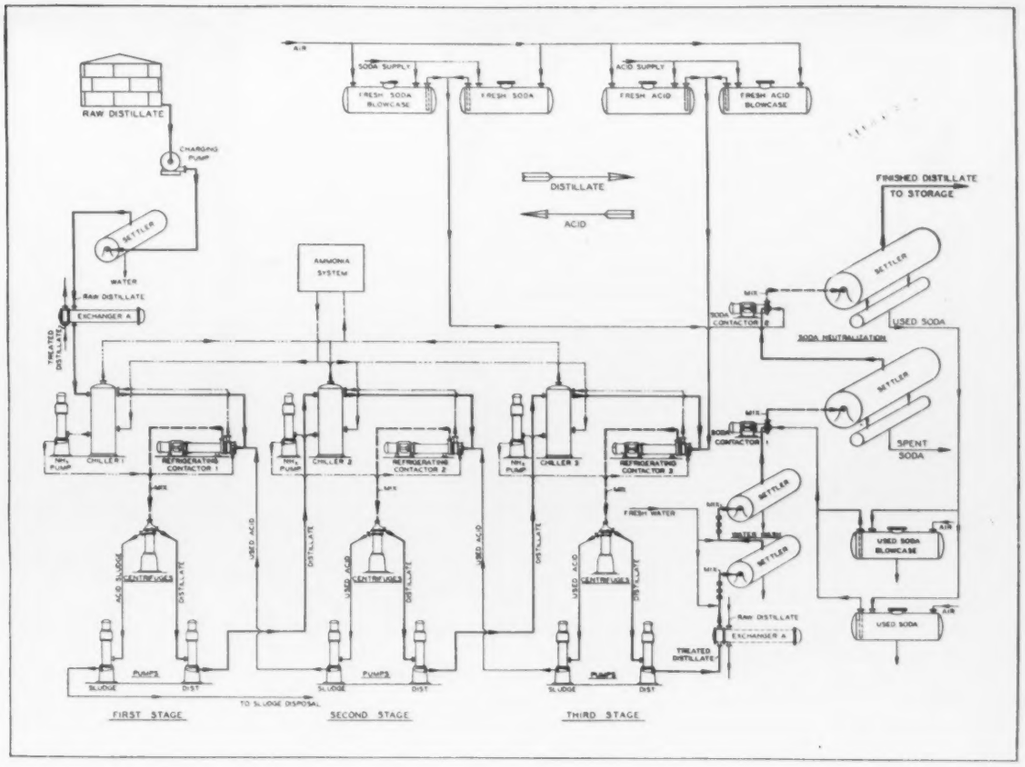



Fig. 4—Flow sheet

5 pounds of 98% $H_4SO_2$. Gum content of 10 milligrams (Atlantic Refining method) was obtained on the final sweetened gasoline by the use of 3.6 pounds of the same acid. It was also found that 4 pounds of acid were sufficient to give induction periods of over 8 hours.

It will be especially noted that the above data resulted from treatment at 30°F. in the first and second stages and 20°F. in the fresh acid stage. The commercial tests have definitely established the advisability of operating this plant at these temperatures for lowest overall operating cost for a given quality of finished product.

**Volumetric Treating Losses**

Fig. 11 is a graph of volumetric treating loss, expressed in percentage of the charge, against acid rate. The data, obtained from gauges between the feed tank and the run tank for acid treated naphtha, are average figures. In reality, loss figures necessarily include any losses by evaporation from the raw feed tank as well as from the treated distillate run-down tank. The curve therefore represents a loss which is the sum of actual volumetric treating loss plus loss by evaporation. It is naturally well understood that treating loss is a function of the character of the distillate, the quantity of acid used for treatment, and the temperature at which treatment is carried out. That volumetric treating loss increases materially with increase in treating temperature is clearly shown by the curves for treatment at 40-40-30°F. and 60-60-60°F.

It should be emphasized at this point that data shown for treatment at 60-60-60°F. in the three stages represent the result of treatment controlled at a maximum of 60°F. by means of ammonia refrigeration. Had controlled temperatures not been used, maximum temperatures of 120°F. to 150°F., depending on the acid rate, would have been reached. It is obvious that had no control been used the losses accompanying such high temperature of treatment would have been many per cent higher than those shown in Fig. 11 for

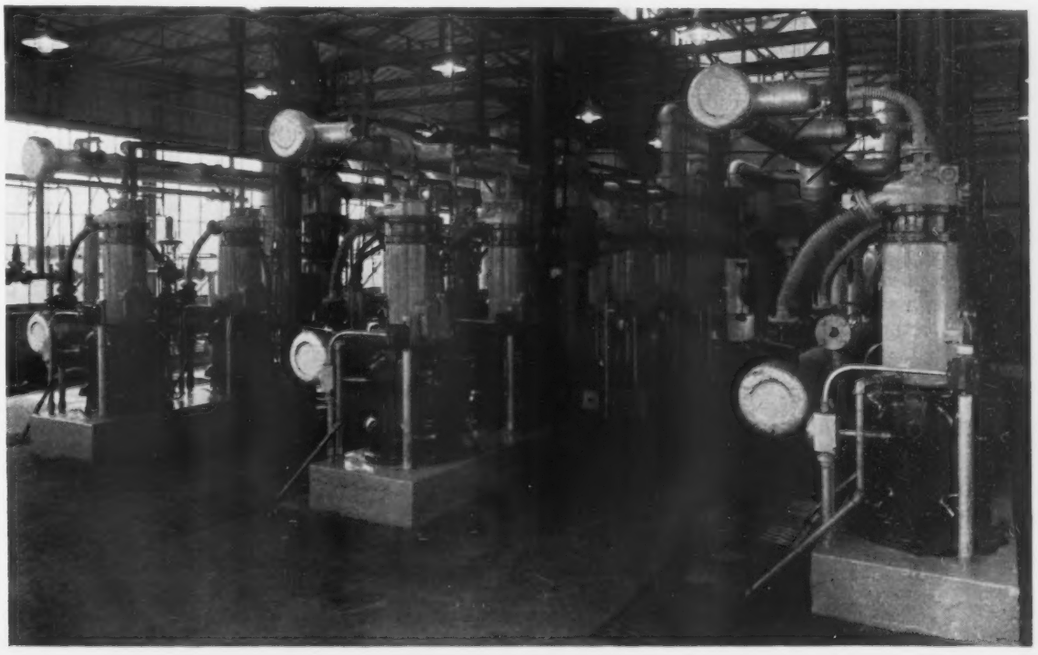


Fig. 3—Treating section showing centrifuges

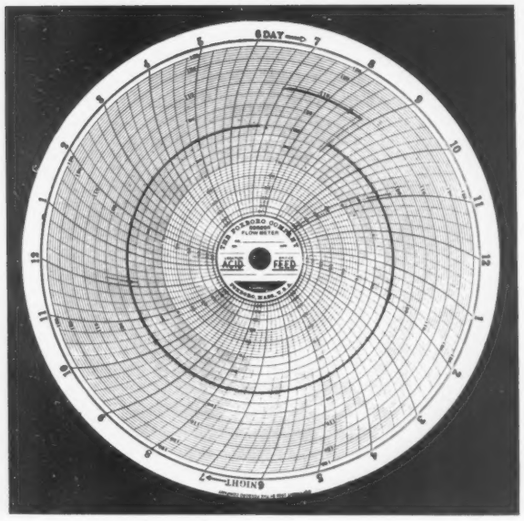


Fig. 5—Typical chart record of the fresh acid feed control

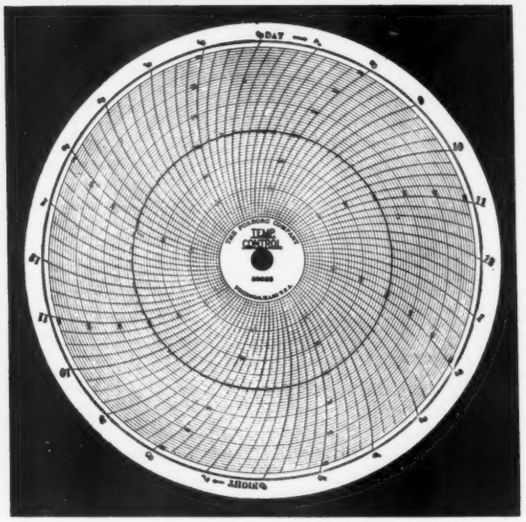


Fig. 6—Typical temperature control chart of the acid-naphtha mixture

treatment at 60-60-60°F. The fact that at high uncontrolled temperatures much more acid is required for a given treating result further accentuates the advantage of controlled temperature.

### Polymerization Loss

Polymerization loss vs. acid rate, as shown in Fig. 12, represents the degradation of end point gasoline to hydrocarbons of higher molecular weight and boiling points above the gasoline range, and is separate and distinct from the volumetric treating loss shown in Fig. 11. All polymerization losses were calculated in accordance with the following formula:

$$100 \times \left\{ \frac{\left\{ \begin{array}{l} \%\ \text{Gasoline in} \\ \text{Raw Naphtha} \end{array} \right. - \left. \begin{array}{l} \%\ \text{Gasoline in} \\ \text{Treated Naphtha} \end{array} \right\}}{\%\ \text{Gasoline in Raw Naphtha}} \right\}$$

The gasoline content in each case was determined by the actual measurement of end point gasoline produced in a glass laboratory still equipped for highly efficient fractionation. In order to eliminate, as far as possible, the errors of the A.S.T.M. distillation, yields for a given end point were selected from a curve established by distillation to three different end points. The detrimental effect on polymerization loss of treatment at higher temperatures is also shown in Fig. 12. Here again, as in the case of volumetric treating losses, it should be pointed out that the temperatures were all controlled at the values shown. Elimination of temperature control and the resulting excessive temperatures would have caused a marked increase in polymerization losses for a constant acid rate and a still greater increase for the same degree of refinement.

### Degradation of Octane Number

All octane number determinations were made by the C.F.R. Motor Method with humidity control. The engine was periodically checked for accuracy. All knock ratings were taken from a curve of knock rating vs. end point established by determinations on gasolines of three different end points. Loss of octane number for various rates of acid treatment is shown in Fig. 13. The very low loss in octane rating, even at high acid rates and treating temperatures as high as 60-60-60°F., should be especially noted.

### Power Required for Refrigeration

The amount of power required for refrigeration at various acid rates and treatment at 30-30-20°F. is shown in Fig. 14. The refrigeration required for treatment at low temperatures is dependent upon the heat of reaction for any given acid rate on any given distillate. This varies widely with the nature of the distillate as determined by its source and conditions under which it was manufactured. Examination of this chart clearly discloses that the cost of refrigeration is very small when compared with the total cost of acid treatment.

### Neutralization Requirements

Low chemical requirements for neutralization are characteristic for naphthas acid treated at low controlled temperatures. In the case of this installation, even at acid rates

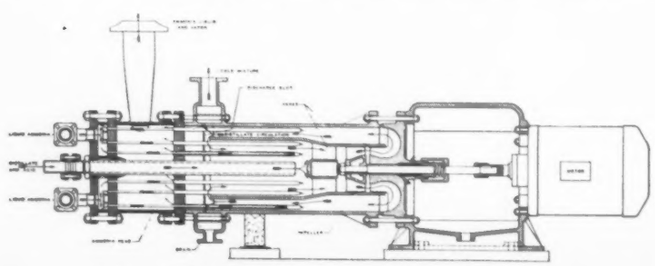


Fig. 7—Cross section of the refrigerating contactor

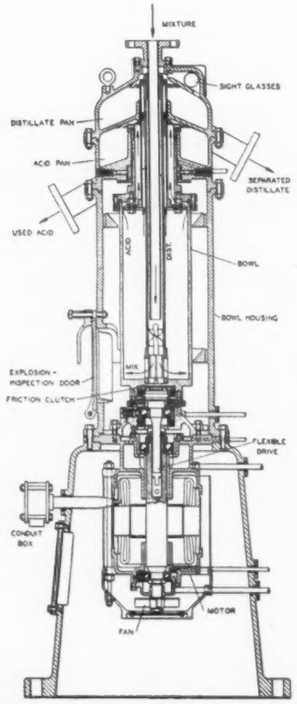



Fig. 8—Cross section of the Stratco C-10 centrifuge

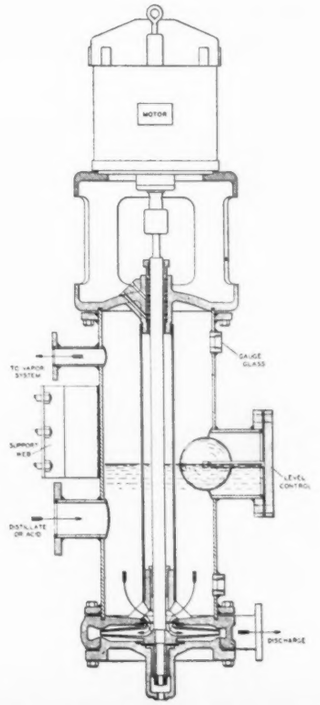



Fig. 9—Cross section of a vertical receiver type centrifugal pump

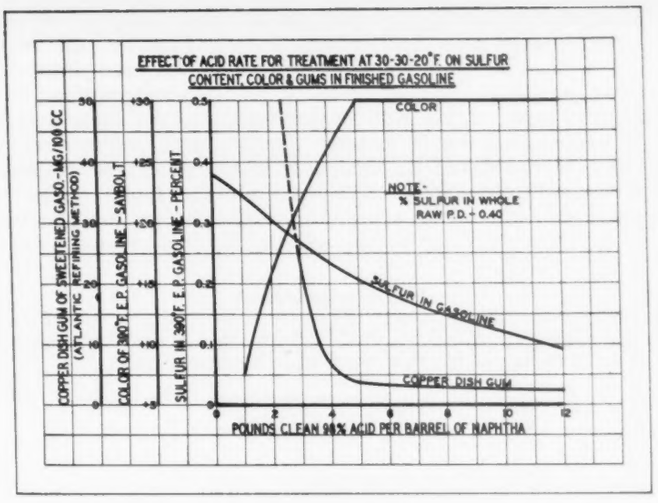

EFFECT OF ACID RATE FOR TREATMENT AT 30-30-20°F. ON SULFUR CONTENT, COLOR & GUMS IN FINISHED GASOLINE
COPPER DISH GUM OF SWEETENED GASO. - MG/100 CC (ATLANTIC REFINING METHOD)
COLOR OF 390°F. E.P. GASOLINE - SAYBOLT
SULFUR IN 390°F. E.P. GASOLINE - PERCENT
COLOR
NOTE - % SULFUR IN WHOLE RAW P.D. + 0.40
SULFUR IN GASOLINE
COPPER DISH GUM
POUNDS CLEAN 98% ACID PER BARREL OF NAPHTHA

Fig. 10—Effect of acid rate on sulfur content, color, and gums of finished gasoline for treatment at 30-30-20° F.

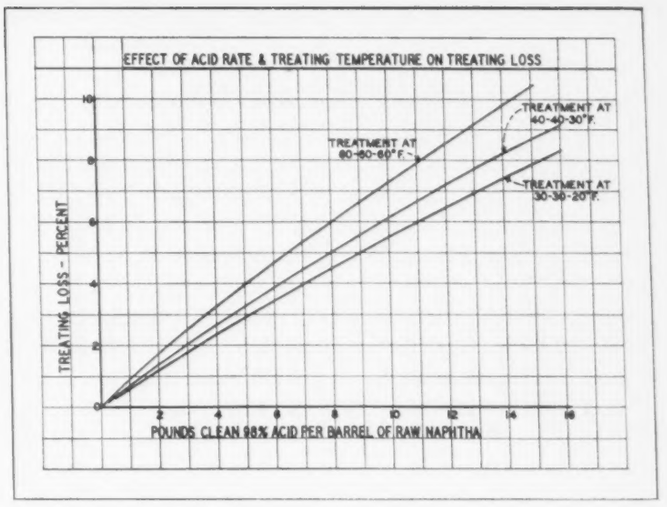

EFFECT OF ACID RATE & TREATING TEMPERATURE ON TREATING LOSS
TREATING LOSS - PERCENT
TREATMENT AT 40-40-30°F.
TREATMENT AT 60-60-60°F.
TREATMENT AT 30-30-20°F.
POUNDS CLEAN 98% ACID PER BARREL OF RAW NAPHTHA

Fig. 11—Effect of acid rate and treating temperature on treating loss

of 15 pounds to the barrel, the caustic soda required for neutralization did not exceed 0.20 pounds per barrel.

### Character of Sludge

The acid sludge from this process is readily hydrolyzable into dilute acid and acid oil satisfactory for use as refinery fuel. A very high percentage of weak acid may be recovered as compared to the total acid content of the sludge. The content of carbonaceous material is sufficiently low to make possible concentration of this weak acid to usable strength in concentrators of conventional design.

### Correlation—Plant vs. Laboratory

It has been previously well established that there is very definite improvement in efficiency of three-stage countercurrent treatment at controlled low temperatures over the best that can be accomplished in the laboratory with a single stage.

The guaranteed performance of the Wilshire treating plant was based on such correlating data, which have been further substantiated during the test runs on the plant. This correlation is shown in Fig. 15. It should be carefully pointed out, however, that such a correlation is applicable only to treatment at low temperatures, and that at normal treating temperatures without temperature control it does not apply.

Furthermore, it has been found that it is difficult, if not impossible, to duplicate in commercial atmospheric temperature acid treating plants having no temperature control, even with multi-stage operation, the results to be had

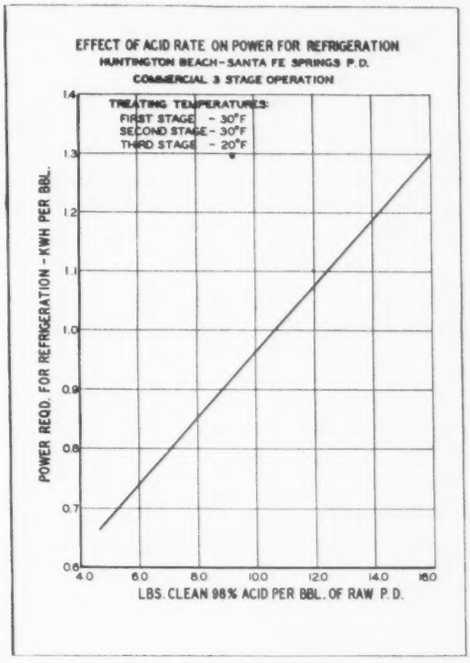

EFFECT OF ACID RATE ON POWER FOR REFRIGERATION
HUNTINGTON BEACH - SANTA FE SPRINGS P.D.
COMMERCIAL 3 STAGE OPERATION
TREATING TEMPERATURES:
FIRST STAGE - 30°F
SECOND STAGE - 30°F
THIRD STAGE - 20°F
POWER REQD. FOR REFRIGERATION - KWH PER BBL.
LBS. CLEAN 98% ACID PER BBL. OF RAW P.D.

Fig. 14—Power requirements for refrigeration when treating at 30-30-20° F. with various acid rates

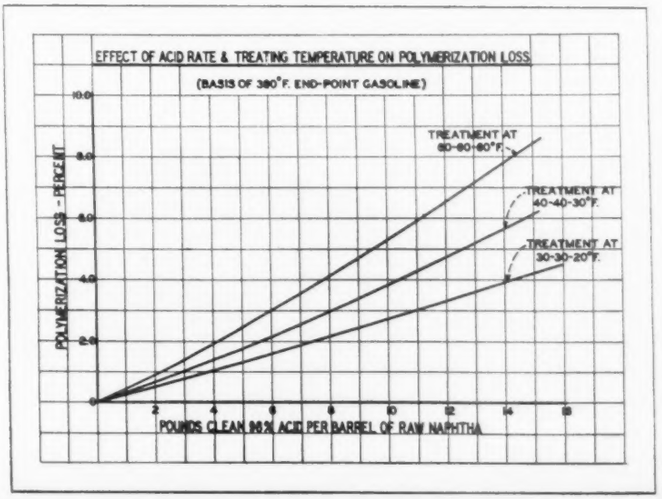

EFFECT OF ACID RATE & TREATING TEMPERATURE ON POLYMERIZATION LOSS
(BASIS OF 380°F. END-POINT GASOLINE)
POLYMERIZATION LOSS - PERCENT
TREATMENT AT 60-60-60°F.
TREATMENT AT 40-40-30°F.
TREATMENT AT 30-30-20°F.
POUNDS CLEAN 98% ACID PER BARREL OF RAW NAPHTHA

Fig. 12—Effect of acid rate and treating temperature on polymerization loss

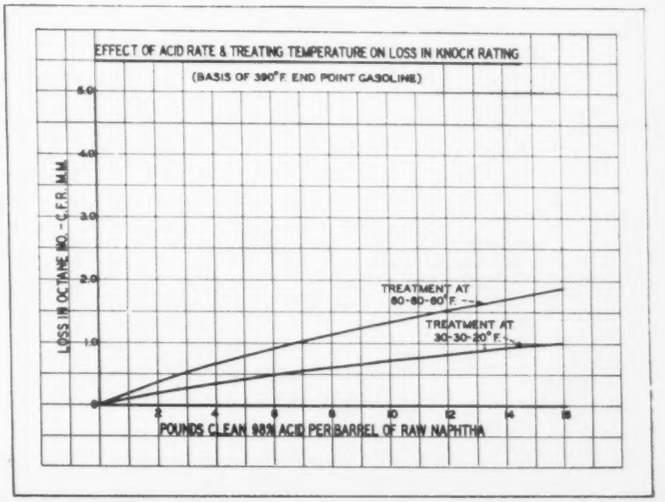

EFFECT OF ACID RATE & TREATING TEMPERATURE ON LOSS IN KNOCK RATING
(BASIS OF 390°F. END POINT GASOLINE)
LOSS IN OCTANE NO. - C.F.R. M.M.
TREATMENT AT 60-60-60°F.
TREATMENT AT 30-30-20°F.
POUNDS CLEAN 98% ACID PER BARREL OF RAW NAPHTHA

Fig. 13—Effect of acid rate and treating temperature on octane loss

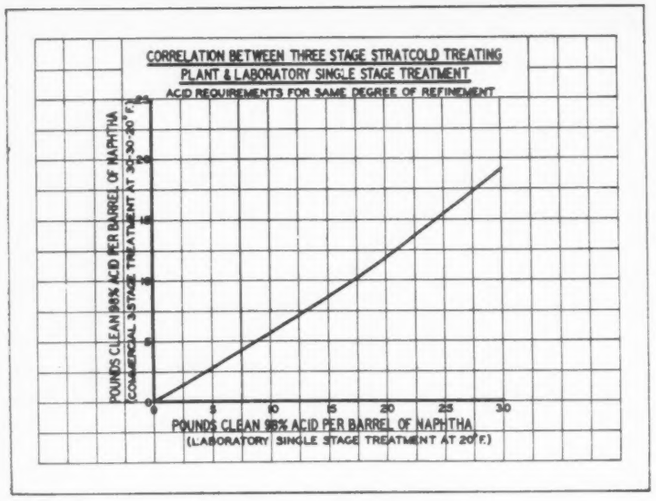

CORRELATION BETWEEN THREE STAGE STRATCOLD TREATING PLANT & LABORATORY SINGLE STAGE TREATMENT
ACID REQUIREMENTS FOR SAME DEGREE OF REFINEMENT
POUNDS CLEAN 98% ACID PER BARREL OF NAPHTHA (COMMERCIAL 3 STAGE TREATMENT AT 30-30-20° F.)
0
5
10
15
20
25
30
POUNDS CLEAN 98% ACID PER BARREL OF NAPHTHA (LABORATORY SINGLE STAGE TREATMENT AT 20° F.)

Fig. 15—Relation between acid requirements in laboratory single stage treatment of 20° F. and three stage Stratcold treating plant at 30-30-20° F.

in a single stage in the laboratory under the same conditions. In other words, while commercial cold treatment makes possible acid savings of 40 to 50% over laboratory cold treatment for the same degree of refinement, commercial treatment without temperature control requires the same or more acid than the laboratory treatment at comparable temperatures. This means that no laboratory investigation will disclose the advantages of treatment at controlled temperatures without full knowledge of the plant-laboratory correlations involved.

### Demonstrated Advantages of Process

A report of the operation of this Stratcold treating plant, as outlined herein, is not complete without calling the reader's attention to the very marked superiority of the results disclosed over those obtainable by any known acid treating method without temperature control, as exemplified by other existing treating installations. Such treatment results in much higher acid requirements for the same degree of refinement, much greater treating and polymerization losses, and substantial increase in loss of octane number. When evaluated, these differences will be found to be of great economic significance. It was the recognition of these advantages which led to the selection of this process by the Wilshire Oil Co.

### Acknowledgment

The co-operation of the Wilshire Oil Co. in making these tests possible is hereby gratefully acknowledged.

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## Continuing Study of Fire Protective Systems

The heading on an article on fire protective systems for refineries appearing in the March 10th issue of NATIONAL PETROLEUM NEWS, page 66, which read, "Foam Extinguishment Dwarfs Other Methods on Oil Fires," may have given readers a wrong perspective on the relationship of foam methods to other methods of fire protection used in the oil industry, the use of which has been growing the past few years.

While this article discussed very largely the foam method of fire protection in use in refineries, a similar study is now being made by NATIONAL PETROLEUM NEWS editorial staff of other fire protective needs, and methods to be used, not only in refineries but also in other places in the oil industry; and other articles based on this study will be carried in future issues.—Editor.

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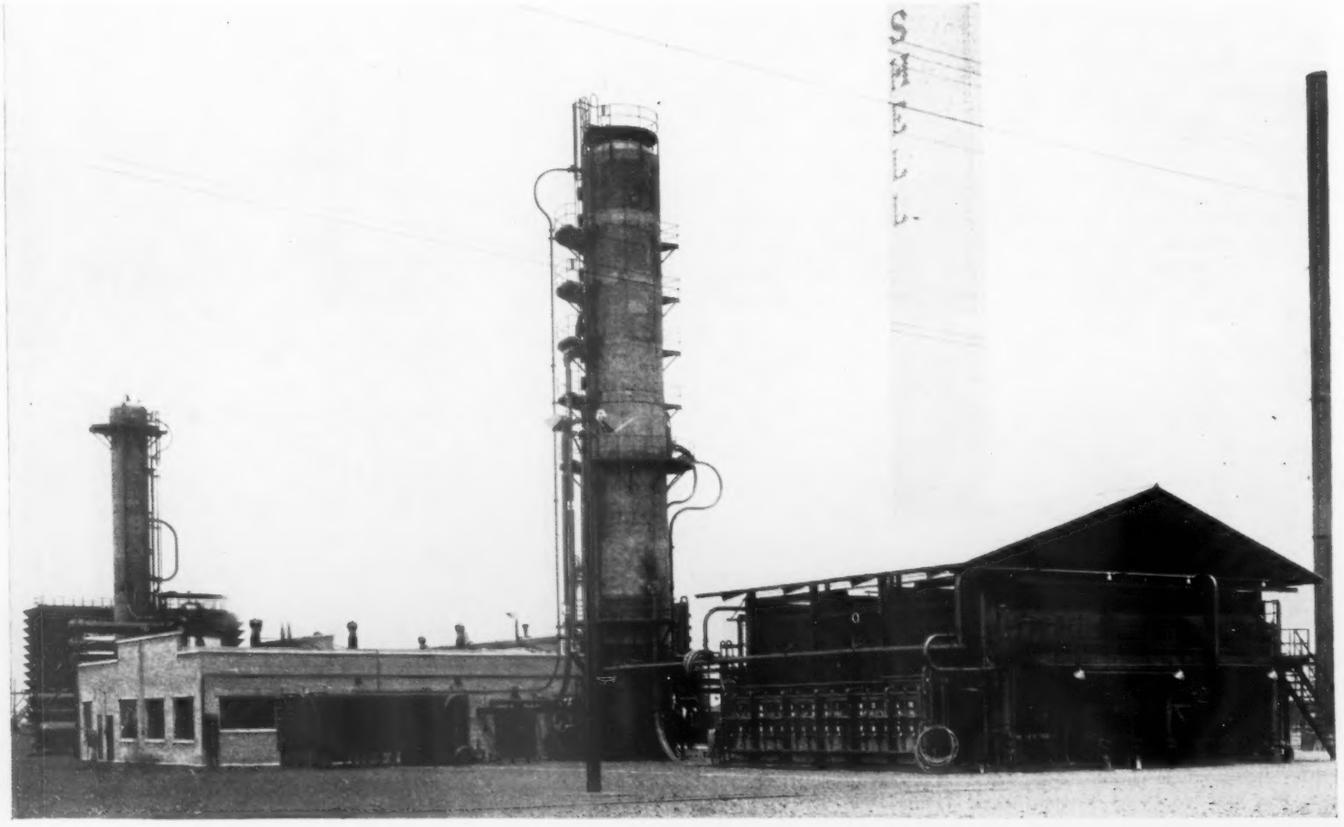


A gasoline pre-fractionator and a naphtha cracking unit, one of the solutions to the problem of higher octane number fuels for the automotive and aircraft engines of tomorrow—Photo by Universal Oil Products Co.

# *A new Dubbs refinery*

BARNSDALL is building a refinery on the ship channel at Corpus Christi

What is a refinery?

Well, this one is a Dubbscracking unit, that's all—but that's enough

Crude oil will go directly into the unit—5,000 barrels a day

Dubbscracked gasoline of 75-76 octane number will come out of it—and Dubbscracked, low viscosity fuel oil

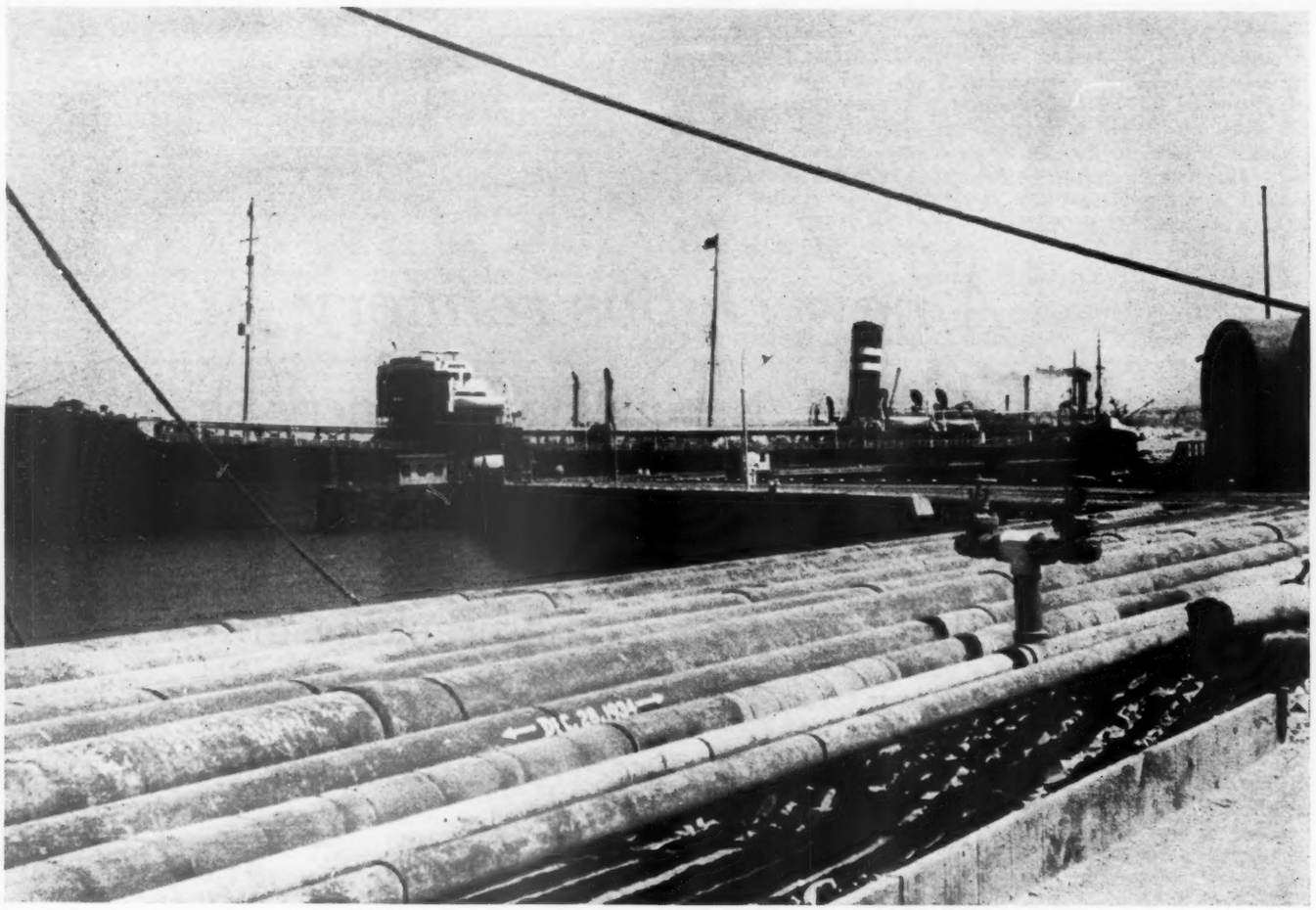
There's an eager market waiting for both—a market handy to Corpus Christi

Good judgment of Barnsdall management

Good fortune for Barnsdall stockholders

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor



Oil tankers loading at Talara, Peru

# Introduction to an Oilfield On the Peruvian Coast

**By E. PHYLLIS SNYDER***

ONE of the most exciting experiences in my 14 months tour of Peru and Colombia was the day I first set eyes on an oilfield. I had been reading and writing about them for a number of years, but I want to tell you, right here and now, all the most spell-binding tales ever read or heard, are not to be compared with actual personal contact.

Moreover, no two fields are alike, neither in structure, in location, in setting nor in personnel. The Talara fields of the International Petroleum Co., for instance, lie on the northern coast of Peru, an extensive sandy desert on which not a blade of grass is to be found except where some enterprising housewife has succeeded in coaxing a few to "give up." The last time it rained in Talara was over 25 years ago, when it nearly washed out the whole camp, as well as the entire northern coast of Peru. The company has just installed a new water works so that the colony might drink in safety, when the storm came. Pipelines, machinery, equipment, and so on were all swept into the sea. The damage was tremendous.

On the other hand, you have the oilfields of El Centro and Barranca-Bermeja, of the Tropical Oil Co. in Colombia, which not too long ago were wild, impenetrable, disease-ridden, jungle lands. And here, not only does it rain, but it does such a thorough job that you swear you will never be dry again. And just when you are resigning yourself to your fate, the blistering sun suddenly smiles sizzlingly at you, and again you are wet, but this time it is from bucketsful of perspiration. You then begin to wonder wistfully whether the other kind of *wetness* isn't preferable, when "Don Manuel" (the weather man) obligingly gives you a chance to test it and it is raining again in torrents.

When I stepped out of the plane at Talara, the sight—or perhaps the heat—left me gasping. Snow-white sand so hot it burns through the soles of your shoes. And there are 600 square miles of it. It gets into your eyes, your ears, your nose, your mouth. As for your clothes . . . . What projected the picture so strongly in my mind was the fact that I had just come in from a tour of the southern sierra, going as far as Bolivia, and hitting altitudes as high as 16,000 feet, where it almost froze the pants off me.

The *tour de force* of the Talara picture however, was a well that had put on a special show for my benefit. Just when she hit 1300 feet—did the figure 13 have something to do with it?—she broke loose and ran wild. And for ten solid days and nights, she resisted all friendly overtures. Think of it! Fifty million cubic feet of gas a day spraying the countryside and going up in vapor. I hope the International Petroleum in Canada and the boys at Talara, including Arthur Iddings, its head, will pardon my hard-boiled brutality, but it was such a magnificent sight, so awe-inspiring

*Formerly of O'Shaughnessy's South American Oil Reports

Well No. 2810 flowed wild for 10 days losing about 50,000,000 cubic feet of gas per day

Captain J. W. Flanagan, director of International Petroleum Corp. and president of Andian National Corp., lives in the penthouse on the only "skyscraper" in Cartagena, Colombia

and majestic in its indifference to every conceivable effort to tame her, that I simply cannot be too grateful to Well No. 2810 for holding off until I arrived. And to think that for months I had been planning to visit Talara, and every time I prepared to go, I wound up in a remote corner of Peru. Were I a fatalist, I'd shout a clinching argument, "There's the proof!"

Field Superintendent Morrison had the jitters because he couldn't keep me away. And do you blame me? This sort of display happens once in a lifetime, and we must not allow such dazzling opportunities to go to waste. The surrounding area for miles around was zoned off, cars, cigarettes and visitors were prohibited. Mine was a special case, but not to Morrison. Even the men were edgey. They had been working frenziedly day and night. Everybody was on the *qui vive;* everybody but Arthur Iddings, the head of the "whole works" in Talara. He was in his element. He'd jump in and out of that spurting well as nimbly as a monkey, oblivious to danger as an innocent babe. And he enjoyed every bit of it, the fear, the frenzy, the herculean fight of the men to get that well under control. I had a sneaking feeling that when it was over he was sorry.

When the well was finally capped, he and Mrs. Iddings gave a dinner, and modestly asked would I mind if he invited some of the boys who had been at the well. "You know, they've worked so hard, they need a little relaxation." I was delighted. To see the men dressed in mess jackets that night, you'd never believe they had just finished a victorious fight with a temperamental well, with hardly a wink of sleep for ten days, and facing possible extermination every instant.

The reason the situation at the camp at Talara made such an indelible impression was that I had just come from another foreign camp where the exact reverse was in order. The camp *jefe* there is a *diosito* (tin god) by his own proclamation. And the gods help that man who forgets it! However, that was not an oil camp, I am glad to say. I have always believed that oil companies have much broader vision and are more considerate and liberal towards their men than other industries. I believed that before I went to South America, and this belief is confirmed, after having visited some twenty-odd foreign camps of diversified industries in three Latin countries.

The International Petroleum Co. should not only be commended for its hand-picked personnel both among the gringos and natives, but for its provision for pent-up energies in the way of all kinds of sports and entertainment. You have riding, polo, hunting, golf, tennis, football, baseball, swimming, fishing, bridge, well-stocked libraries, two modern "movies," with brand new sound equipment of the highest quality; attractive clubrooms, where the boys provide their own entertainment, which is very good indeed; at other times professional entertainers are brought in.

The homes for the gringos and the natives in the higher wage brackets are large and roomy and cheerfully furnished; the single men's quarters are equally ample and comfortable So is the guest house, which formerly served as the men's

Arthur Iddings, head of International Petroleum Co. in Talara, watching his men fight a well out of control

Chief Geologist Boggs, Assistant Geologist O'Higgins, and a well foreman at Negritos field, Talara

Laborers canchones (living quarters) at Talara, Peru

Polo is just one of the sports enjoyed at Talara. This match is being played at the Lima Country Club. Tennis, golf, baseball, hunting, fishing, and modern "movies" are some of the other recreations available

quarters, named by the natives *"Casa de locos"* (crazy-house), because the boys in those days were a pretty tough bunch. Those days however, are now gone. International Petroleum keeps nobody on its payroll, be he ever so indispensable who can't "toe the mark." No, they are not competing with reform schools, only they haven't the time to double for nursemaids to grown up men. There's a job—and a difficult one —to be done. International Petroleum eagerly meets its men halfway, but those men must certainly come across with their half.

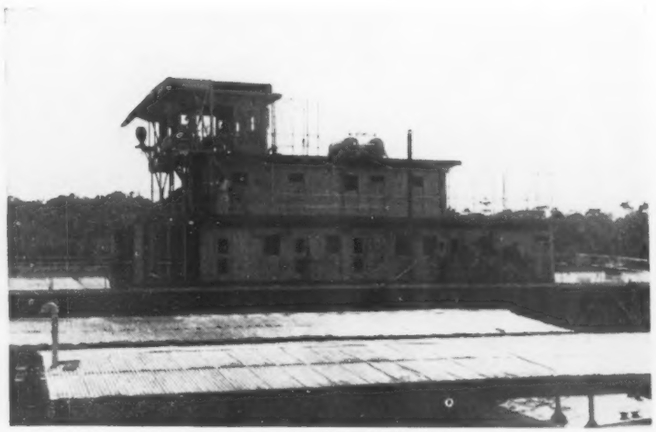
The company has two hospitals, the emergency one out at Negritos field and the principal one in Talara. That Talara hospital is the most modern equipped in all Peru, and among the very few up-to-date ones in all Latin-America. It has a nation-wide reputation, as has its head, Dr. Lewis Fraser. It was just after the well had subsided, when one of the prize polo horses of the Iddings took violently ill. Well, the hospital and staff are prepared to cure anything —even a horse. Dr. Fraser and Charles Kindersley (a charming young Englishman said to be son of an Earl, who, when he is not a refining specialist, "two-times" as riding master, polo champ and instructor, and also "leads 'em to the hounds") worked over that animal as earnestly and as gently as Dr. Dafoe must have when he pulled Mrs. Dionne and her "quints" out of the "red." I was in the corral with two Peruvian officials, one the prefect of Piura, and the other, captain of a cruiser. They went "bug-eyed." "A mere horse! To work like that. Gringos certainly are a race of freaks!" they exclaimed in unison.

As I said before, International Petroleum is doing a splendid job, not only for the gringo personnel but for the natives. Whoever is responsible should certainly be highly commended for it. Not only do they have good schools for the native youngsters, but talent is sought and promoted; those youngsters with a flare for music have an opportunity to advance it through two boys' bands; those with a knack for painting or drawing, have their turn. The company is now considering the installation of an industrial school for both boys and girls who have graduated from the primary school and are interested in receiving training in specialized fields.

I spent ten days roaming around the camps, both among the natives and the gringos. I asked all kinds of questions from any and everybody—and I can ask, for I speak Spanish fluently. From all sides I got nothing but admiration and praise for the company.

Thus I believe it good form to suggest that any foreign outfit having labor trouble should take a run down to Talara and secure firsthand information. It is also well to remind corporation executives that much of the labor trouble can be eliminated by installing local heads especially fit for the job. The job, we all agree, is no easy one, and we still further agree that to find the right man is not easy either.

But the wrong man can do incalculable, irreparable damage both to the happiness and tranquility of the camp itself, as well as to the prestige of the company. Also, he can destroy completely any vestige of tolerance or co-operation on the part of the natives towards foreign "exploiters." I saw that in so many camps, but it seems that the "push-button-kings" back home don't realize it. So by all means, if you suffer from labor trouble, invest in a trip to Talara—and I am not selling trips, nor stock in the company.



Tropical Oil Co.'s "Barranca-Bermeja" towing 6500 barrels of crude oil and gasoline in four barges, two on each side, up the Magdalena river in Colombia

Walter S. Reid, executive representative of International at Lima, in conversation with Arthur Iddings, dressed for a polo match

# Oil Industry's Paint Problems Topic at Refiners' Session

By ALLEN S. JAMES
N.P.N. Staff Writer

SHREVEPORT, La., March 22

ONE of the men in a paint company's research laboratory a few months ago made a slight slip while running a routine experiment. The result was not what had been anticipated, so he set the beaker containing the "mistake" one side and started the experiment again.

Today that mistake gives promise of being the answer to the oil industry's plea for a durable seal for floating roofs on tanks containing "sour" crudes and for providing a satisfactory coating for PD rundown tanks.

Already the mistake has been tried on the floating roofs and has cut the cost from over $1 down to about 58 cents per square foot. More work will be done, however, on the PD rundown tank problem before the product is declared applicable for that particular service.

That was only one of the many stories pertaining to development of paints for the oil industry, W. T. Deacon, vice president of the St. Louis Surfacer & Paint Co. told his audience at the monthly technical meeting of the La.-Ark.-Tex. division of the Western Petroleum Refiners Association held here recently.

Mr. Deacon's paper, "Paints for the Oil Industry—Their History, Development and Use," covered the field so thoroughly that little general discussion followed its reading. On the other hand the refinery and field men present—and the attendance was the largest of any of the meetings to date—appeared more inclined to keep Deacon telling sidelights of his industry's efforts to help their industry solve some of its maintenance problems.

There was the time some years ago, Mr. Deacon related, when a crude storage tank in the then new West Texas oil field burst into flames one hot, clear day. Four tanks of oil were destroyed, and the oil company owning them invited "everybody" to come out and study the situation. Spontaneous combustion had been given as the cause of the fire.

Mr. Deacon and a companion rented a car in Fort Worth and drove out into the West Texas field. They studied the situation at some length, and finally scraped some "scale" off the under side of a manhole cover, tossed it into a paper bag and then threw the bag in the back seat of the rented car and started back to Fort Worth. At noon they stopped in a small West Texas town for lunch. While eating, a rangy Texan, cowboy boots and 10-gallon hat and bright scarf, strolled in and drawled:

"Mister, is that your car out there in front?"

Mr. Deacon acknowledged ownership.

"Well, I thought you might like to know its afire."

"Ah, no, not my car," Mr. Deacon said he replied. "It can't be my car—I just got out of it a few minutes ago."

"Well," the Texan drawled. "Maybe you are right, but that back seat is burning right brisk."

Those scales, which turned out to be iron sulfide, had started the fire. From that beginning Mr. Deacon and his associates started on the problem which eventually led to the development of the product now used for surfacing interiors of tanks which are to be used for storage of sour crudes.

This product at first was applied with a trowel. Someone suggested that, if it could be applied with a spray gun, the cost could be reduced materially. The spray gun makers experimented and reported the gun could not be used. But that report meant nothing to workmen one hot day when it seemed they never would get through smearing that stuff with trowels. They removed the needle valve from the spray gun, leaving an ¼-inch opening, and tried it out. That now is the approved method of application.

THEN there was the problem resulting from the escape of gas from sour gas wells in the Panhandle and West Texas fields.

"You could drive by an oil camp in the morning," Deacon said, "and see houses newly painted, white or some other bright color—painted with lead base paints. You would not recognize the camp when you came back in the afternoon. That sour gas had gotten in its work on that lead and the houses were a dull lead color. They actually were coated with lead sulfide."

Someone mentioned the recent floods and Mr. Deacon recalled that just 10 years ago the floods of 1927 started the paint industry to studying the effect of mildew on paints. An oil company having a number of stations in the flood area was using at that time a red and white paint combination. When the floods receded the white paint remained white but the red turned black. Eventually it was discovered that mildew and other fungi had caused a chemical reaction to take place in the red paint. The white paint had not been affected because the pigment was zinc oxide, a fungi destroyer.

One refiner did ask Mr. Deacon what was the maximum temperature that would permit use of a good grade of smokestack paint.

"When the temperature gets over 600 degrees F.," Deacon replied, "you might just as well put on the cheapest asphalt type. If you want to put on aluminum, thin out the asphalt and put in the aluminum powder."

Chairman R. B. Pierce, who is head of refinery operations for the Louisiana Oil Refining Corp., said his control houses, having cement roofs, had small cracks which permitted oil and water to seep in. Mr. Deacon suggested the use of a special type of water paint.

Someone else asked if wood should be primed for aluminum paint. "Definitely yes," Mr. Deacon replied.

# Coal and Synthetic Processes Give Germany Fuel Self-Sufficiency

MOTOR fuel self-sufficiency ranks foremost among the various programs developed by Germany in the last three years for achieving independence of foreign sources for raw materials, according to S. B. Redecker, American consul. He outlines four reasons for this leading position in the national plan of domestic raw material production. These are (a) heavy drains upon the country's meagre foreign-exchange resources represented by imports of gasoline and diesel oil, (b) indispensability in war time, (c) present intensive motorization program and highway building, and (d) the demonstrated possibility of producing synthetic gasoline on a large scale by utilizing domestic brown-coal and rock-coal.

The progress being achieved is revealed by estimates that within the next two or three years Germany will be able to supply from domestic sources upwards of 80 or 85 per cent of its requirements of *light* motor fuel with possibilities of 100 per cent self-sufficiency in case of need, compared with less than 45 per cent heretofore.

The prospects of self-sufficiency in *heavy* (diesel) motor fuel are considerably less favorable than for light fuel, Mr. Redecker states. Some progress is being made, however, with indications that 20 to 25 per cent of the rapidly expanding national consumption will be supplied domestically in the same period. Even here complete independence of imports could be secured by forced utilization of all available material resources and synthetic processes, it is said.

**TABLE 1**

**Germany's Imports of Motor Fuel, By Volume**

(*Net Imports, After Deducting Exports*)

| Year | Benzol (Metric Tons, 1 metric ton = 1.1 short tons) | Gasoline | Gas Oil | Totals |
|---|---|---|---|---|
| 1930 | 166,625 | 1,427,900 | 448,462 | 2,042,987 |
| 1931 | 136,797 | 1,336,682 | 386,789 | 1,860,268 |
| 1932 | 79,431 | 1,070,255 | 370,362 | 1,520,048 |
| 1933 | 67,382 | 996,881 | 435,729 | 1,499,992 |
| 1934 | 78,442 | 1,147,471 | 611,572 | 1,837,485 |
| 1935 | 57,150 | 1,170,104 | 848,822 | 2,076,076 |
| **First Seven Months** | | | | |
| 1935 | 36,929 | 644,684 | 404,702 | 1,086,315 |
| 1936 | 33,537 | 708,137 | 553,504 | 1,295,178 |

Initial gains in domestic production of light motor fuel are evident from the table of imports in consideration of increased national demand for fuel during the period covered. From 1932 to 1936 motor vehicle registrations rose from 1,468,000 to 2,417,000. The government's motorization campaign is aimed toward a total of 3,000,000 to 4,000,000 cars and trucks in use in the not remote future. The above registration figure for 1936 includes 1,184,000 motorcycles, making it evident that present registrations are intended to be tripled or quadrupled.

Since Germany possesses reserves of rock-coal estimated at some 100,000,000,000 short tons and of some 24,000,000,000 tons of brown-coal which are being consumed at an annual rate of 259,000,000 tons, these reserves are sufficient for many years even with the added consumption involved in developing synthetic production.

Marked progress being achieved and the important role played by synthetic gasoline are indicated in Table 2.

### Two Well Known Processes

Synthetic motor fuel production is rendered available by two well-known processes, namely, an adaptation of the original Bergius coal-liquefaction process known as the "I.G.-Bergius" hydrogenation or catalytic pressure system, controlled by the I. G. Farbenindustrie A. G. and related brown-coal producers, and a newer process, "Fischer-Tropsch," controlled by Ruhrchemie A. G., chemical subsidiary of a large part of the Ruhr coal industry.

In addition to the two major processes a still newer method has come to the fore. Known as "Pressure Coal Extraction" there are two closely related processes involving the use of solvents for securing an extract from rock-coal for conversion to diesel oil. Unlike the other two processes these are economical only for producing heavy motor fuel.

The I. G. Bergius hydrogenation process is said to enable conversion of almost the entire carbon content of coal into gasoline. It can use all hydrocarbon mixtures—coal, tar, petroleum, etc.—and is capable of producing not only gasoline but other cuts, diesel oil, kerosine, or even lubricating oil. Even if complete self-sufficiency in motor fuel were attained, national coal consumption would be increased by less than five per cent using this process, it is said.

Owing to the costliness of the productive equipment involved, necessitated especially by the required high pressure and temperature, plants using the I.G. hydrogenation process are economical only in very large units, as represented by the giant Leuna and other newer plants now building.

There are now four plants building or starting operations utilizing the Fischer-Tropsch gas-synthesis process, following definite establishment of its practical utility, and prospects are believed to be that this process may be an increasingly serious competitor of the I.G. process.

The Fischer-Tropsch process as used heretofore based largely upon bituminous coke and three of the new plants will use coke as raw material. However, an important departure was recently achieved by the development of methods for the direct utilization of raw brown-coal. The process provides for conversion of coke to water-gas from which hydrocarbon oils are built up. Four to five tons of bituminous coke are required to produce one ton of gasoline (7.5 barrels), compared with three to three and a half tons of rock coal required by the I.G.-Bergius process.

The advantage of the Fischer-Tropsch process is said to be in a more complete utilization of the raw material and its operation at atmospheric pressure and relatively low tem-

**TABLE 2**

**Sources of Germany's Light Motor Fuel Supply**

(*Figures for* 1935 *are approximate, those for* 1937 *careful estimates*)

| Source | 1935 (Metric Tons) | 1937 (Metric Tons) |
|---|---|---|
| Imports | 1,160,000 | 350,000 |
| Domestic benzol | 300,000 | 350,000 |
| Alcohol (including methanol since Jan. 1, 1936) | 185,000 | 200,000 |
| Domestic crude petroleum | 125,000 | 150,000 |
| Hydrogenation of brown-coal (I. G. process) | 230,000 | 350,000 |
| Low-temp. carbonization of brown-coal (Lurgi process) and subsequent hydrogenation of low-temp. brown-coal tar (I. G. process) | ..... | 400,000 |
| Hydrogenation of rock-coal (I. G. process) | ..... | 150,300 |
| Gas-synthesis of brown-coal (Fisher-Tropsch process) | ..... | 150,000 |
| Gas-synthesis of rock-coal (Fisher-Tropsch process) | ..... | 100,000 |
| Polymerization of hydrogenation and cracking gases | ..... | 50,000 |
| **Total Supply** | 2,000,000 | 2,250,000 |
| Supply from all domestic sources | 840,000 | 1,900,000 |
| Supply from domestic synthetic gasoline only | 230,000 | 1,200,000 |

perature (400°F.). Smaller production units are economical also which is desirable in spreading production.

**Newer Solvent Method**

Although the pressure solvent extraction method is still largely in the experimental stage, recent developments suggest that it has been gaining ground and that it offers increasingly good prospects of serious competition with already established processes in producing diesel oil.

Extraction occurs at moderate pressure in stages under gradual rising temperature of from 570° to 770°F., or just below the point of disintegration. Solvents are added, most practical of which are said to be a mixture of 50 per cent tetralin and 50 per cent of primary-tar phenols.

The pressure-extraction method is said to offer important advantages over the I.G. hydrogenation and other motor fuel production processes particularly because it enables recovery of over 80 per cent of the oil contained in the coal, thus achieving considerably better utilization than other processes, and is neither based upon nor yields a by-product. It also avoids difficulties caused by disturbances from ash involved in high-hydrogenation. The only slight hydrogenation required reduces consumption of hydrogen, the principal cost factor in synthetic motor fuel production, and thus cuts production costs. Simpler plant equipment also requires smaller capital investment.

The motor fuel program has given a great impetus also to research efforts for developing improved low-temperature carbonization methods for producing a better grade of coke, on the one hand, and improved equipment for utilizing low-temperature coke, on the other. The problem of low-temperature carbonization consists chiefly in finding suitable consumption outlets for the coke. The most marked progress has been achieved in this development and outlets were provided by linking coal distillation plants with power works.

**Crude Production Gains Unimportant**

Although Germany's domestic production of crude petroleum has increased considerably in the last several years due to intensive exploration and development work by both domestic and foreign companies, it still remains small and there are poor prospects of its attaining pronounced importance. In 1935 domestic crude furnished only around five per cent of the national requirements of gasoline and around 12 per cent of diesel oil.

**TABLE 3**

**Germany's Production of Crude Petroleum**

| Year | Quantity (Metric Tons) |
|---|---|
| 1928 | 92,000 |
| 1929 | 103,800 |
| 1930 | 174,000 |
| 1931 | 229,000 |
| 1932 | 230,000 |
| 1933 | 239,000 |
| 1934 | 320,000 |
| 1935 | 430,000 |

Germany's domestic supply of benzol has been increased by various means. One has been the installation of improved equipment in cokeries, particularly the "Still" inner suction process, enabling a higher yield of tar and benzol per unit of coal processed. By this method the yield of benzol can be increased 27 per cent and that of tar around 10 per cent over older methods, it is said. National output of benzol expanded from 21,000 short tons in 1933 to around 33,000 tons in 1935. Further increase to 44,000 tons is expected for 1936.

Ethyl alcohol was introduced as a legally required admixture in motor fuel in 1930 as a means of financial aid to farmers. Its use, it appears from figures given in the report, cannot be justified on any grounds other than as an outright cash subsidy to potato farmers payable by the national motor traffic. One result has been the imposition of a heavy financial burden upon motorists and has deprived the government of revenue from import duties on cheap gasoline from petroleum.

Public opposition to ethyl alcohol as motor fuel and other economic reasons, are tending to decrease the importance of ethyl alcohol as a fuel. Methanol, however, has been introduced to replace ethyl alcohol and although it has even less energy value, it has the economic advantage of being considerably cheaper in price. Being a by-product in manufacture of synthetic gasoline, a market is thus assured for the product.

Supplementing the major fuels there are available three types of gases, coal-dust, and electricity offering varying possibilities of attaining importance. Most important are the so-called liquid-gases, notably propane and butane, occurring on a large scale as by-products of natural and synthetic gasoline production by distillation, hydrogenation and synthesis.

While generator gas has been given a most energetic propaganda, experts consider that it offers only small prospects due to its serious shortcomings of bulky and cumbersome generating equipment required to be carried by the vehicle, high cost of equipment, need for frequent replenishing of wood fuel, suitability of only certain types of wood, and poor energy producing quality of the gas.

Extensive experiments have been and are being conducted with coal dust motors but none of these experiments as yet has resulted satisfactorily, due largely to the until now insurmountable difficulty of ash occurrence.

## Sight-Feed Manifold For Ammonia System

In order that ammonia cylinders might be concentrated in one location, The Pennzoil Co., Oil City, Pa., installed a group of sight-feed indicators on the side of one of the buildings in its refinery there, with connections attached to them so that only one cylinder was required for a number of feed lines.

These four indicators are of the usual type of ammonia feed instruments, connected to a common header so that each may receive the chemical from the cylinder. Each instrument was also equipped with the necessary needle valve for adjusting the flow to the desired delivery point through the usual small diameter pipe.

The advantages of such an installation are, 1st., one operator may adjust the feed of ammonia to the particular column or condenser without walking any distance after he received the control chemists instructions; 2nd., only one cylinder is required at one time, which reduced the amount of chemicals needed on inventory; 3rd., only one connection is necessary to install a full cylinder when one has become exhausted.

Manifold for connecting a single ammonia cylinder to the ammonia treating system at the refinery of the Pennzoil Co., Oil City, Pa.

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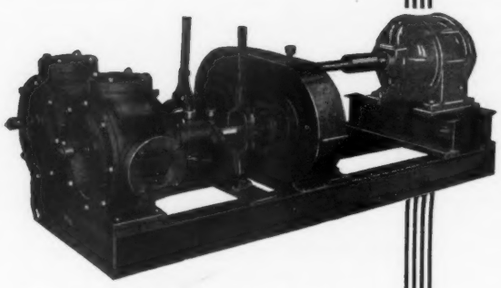
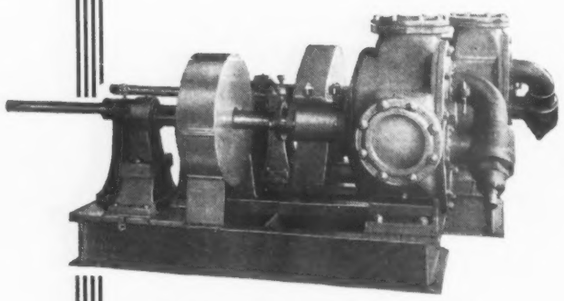


*Viking Twin Unit with Two 450 Gallon Units*



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**H. B. FUQUA**

H. B. Fuqua, chief geologist for Gulf Oil Corp.'s north and west Texas districts, with headquarters at Fort Worth, is the new president of the American Association of Petroleum Geologists. He was elected at the Los Angeles convention on March 17.

Mr. Fuqua, widely known in his profession and among oil producers, joined the Gulf organization about 12 years ago as zone geologist in the Wichita Falls district. He came to Fort Worth as assistant to Ben Belt, then chief of the district, and succeeded Belt when the latter was made chief geologist of Gulf Production Co. at Houston, in 1928.

Mr. Fuqua is a graduate of the University of Oklahoma and, in addition to his extensive geological experience, has operated as an independent producer.